

Fig. 1

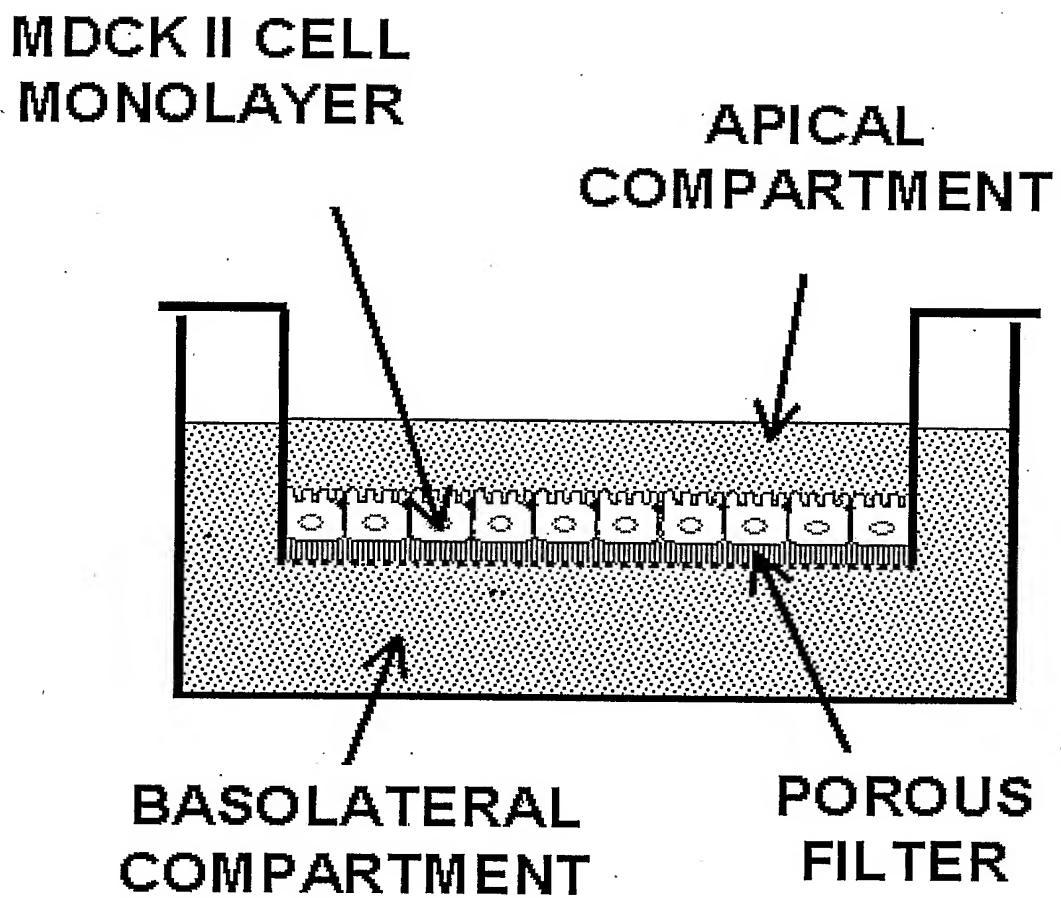


Fig. 2

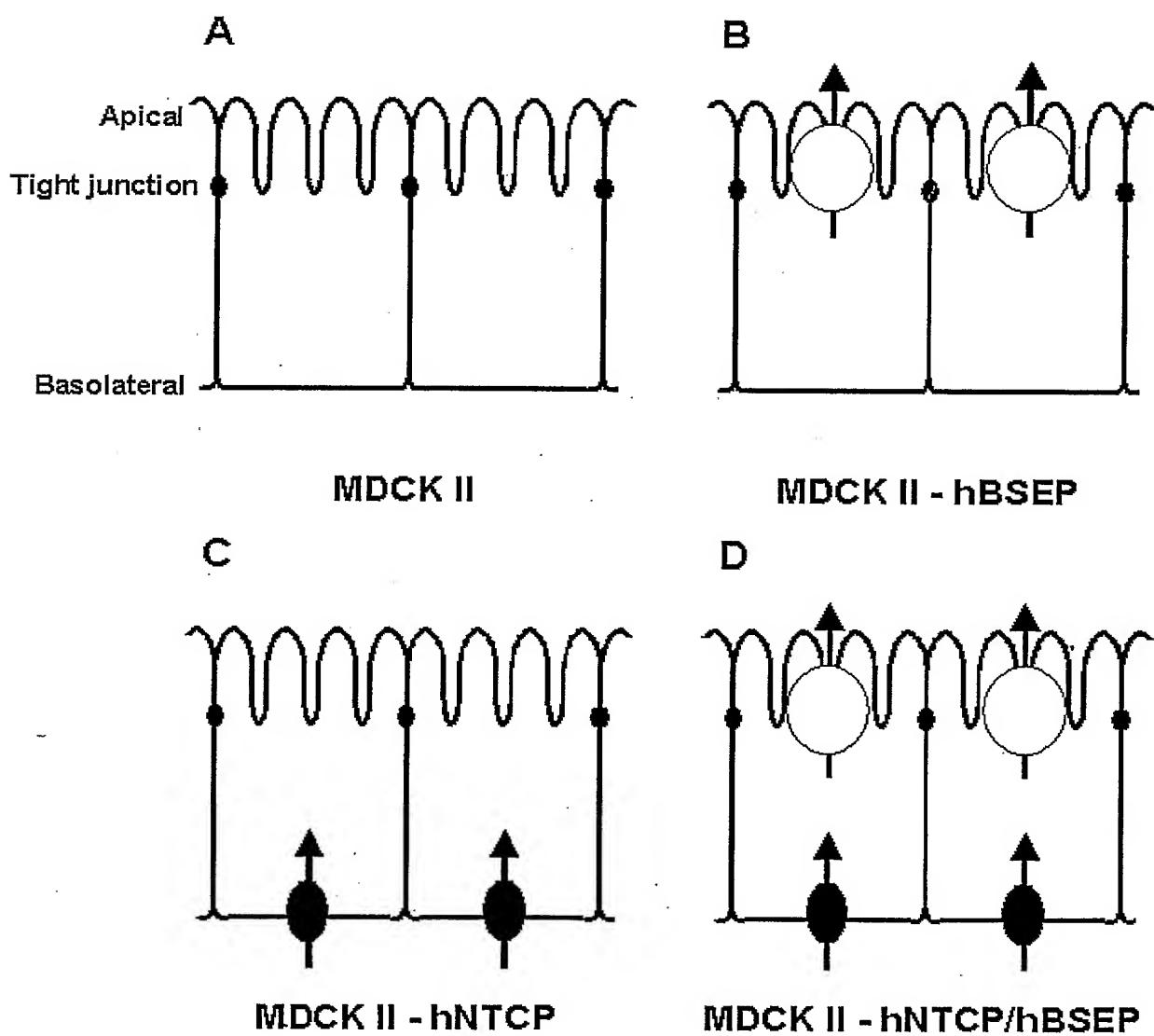
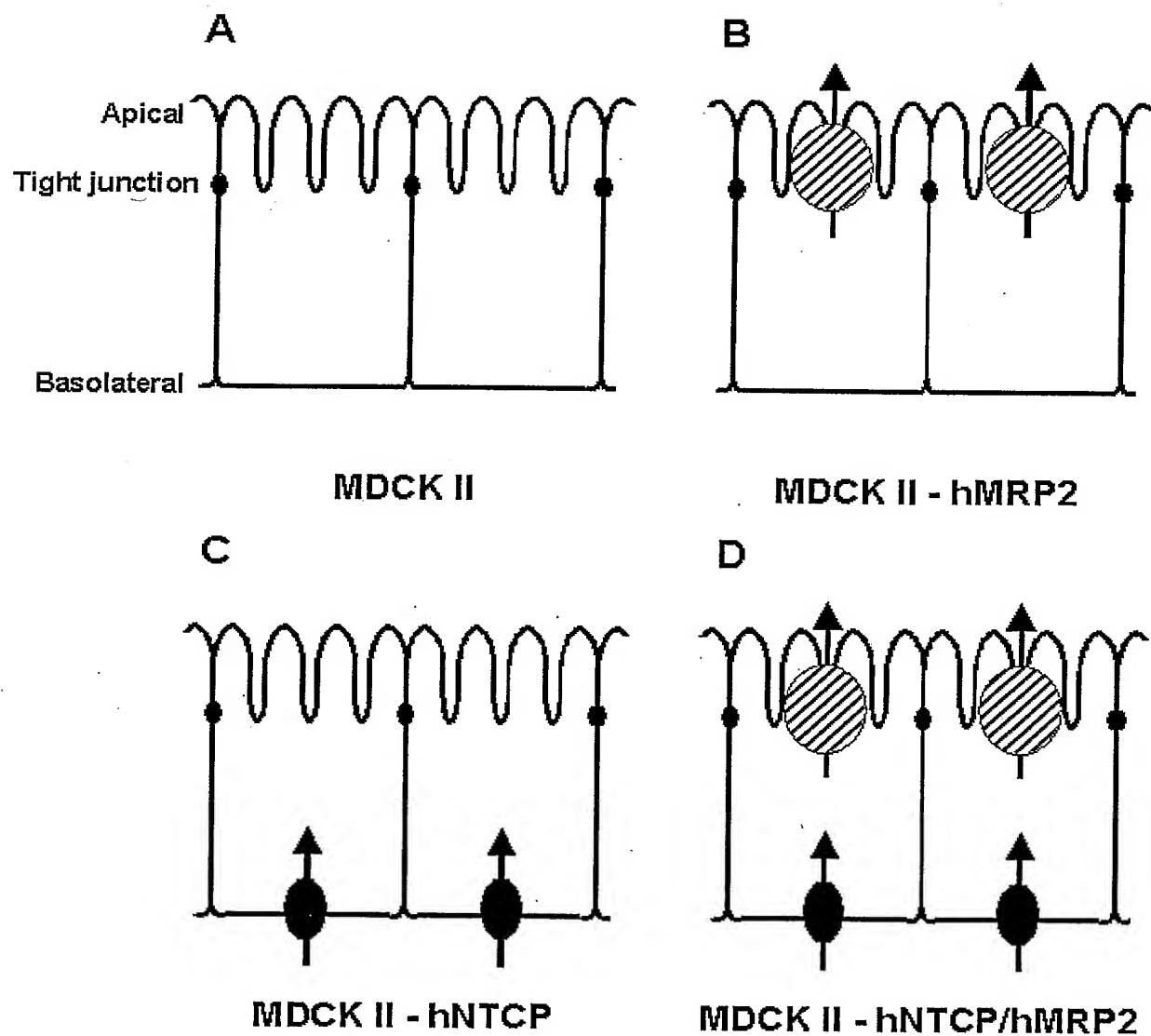


Fig 3



4/11

Fig. 4

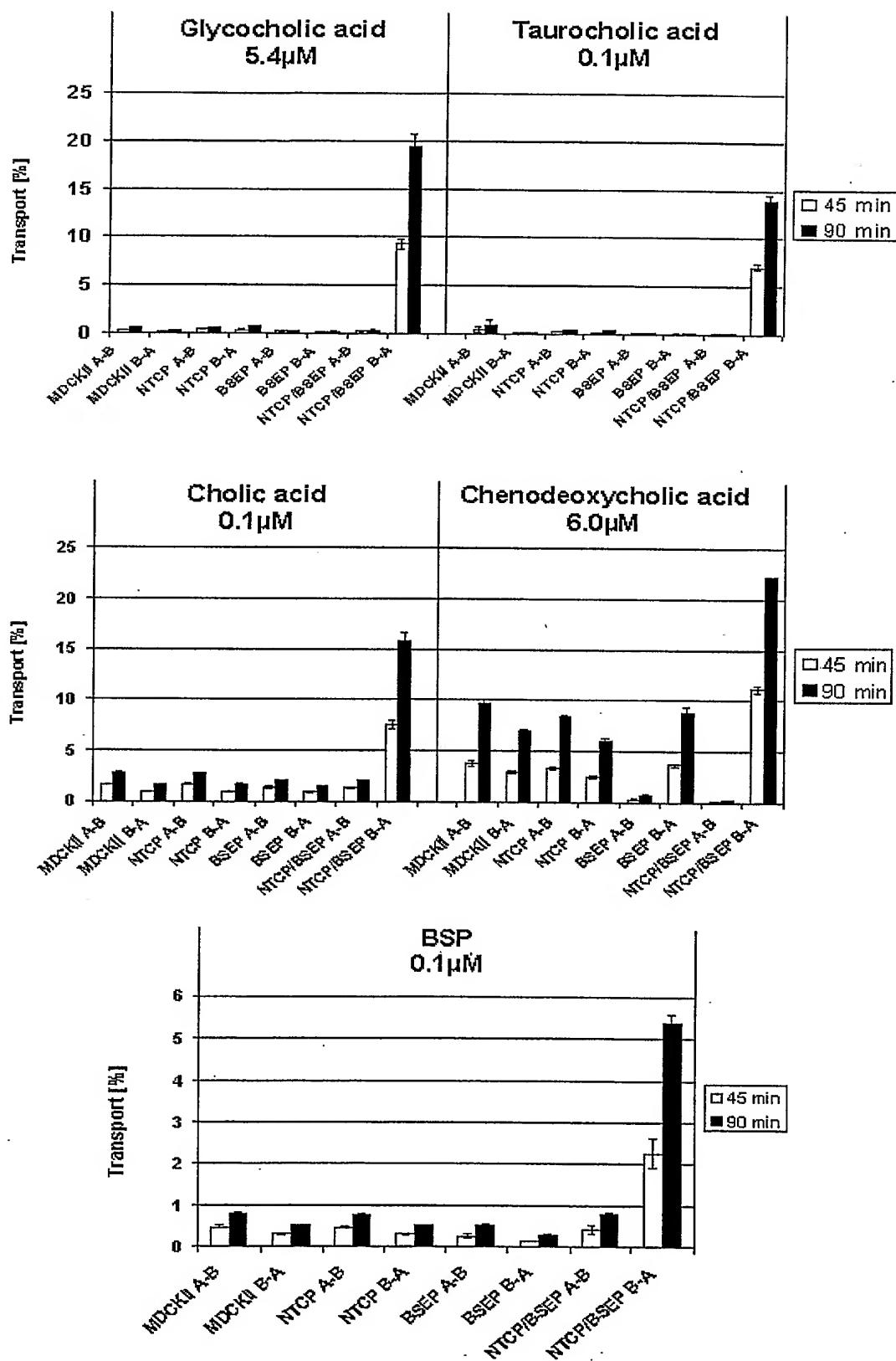


Fig. 5

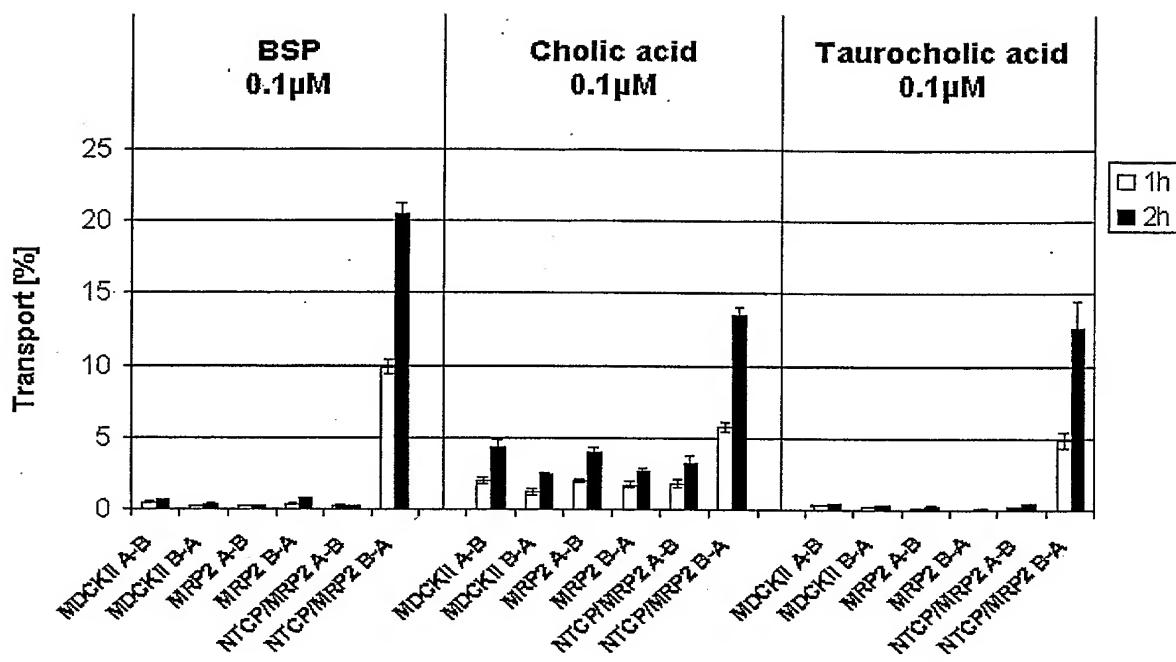


Fig. 6

CAGGAGGATGGAGGCCACAACCGTCTGCCATTCAACTCACCTGCCACCCAACTTGGCAAGGCCACAGACC
TGGCACTGAGCGTCATCCTGGTTCATGTTCTCATCATGCTCTCGTGGCTGCACCATGGAGTTCAAGATC
AAGGCTCACTTATGAAAGCCTAAAGGGCTGGCCATGCCCTGGTGGCACAGTATGGCATCATGCCCTCACGGCCTTGT
GCTGGCAAGGTCTCGGCTGAAGAACATTGAGGCAGTGGCCATCTGGTCTGTGGCTGCTCACCTGGAGGAACCTGT
CCAATGTCTCAGTCTGGCCATGAAGGGGACATGAACCTCAGCATTGTGATGACCACCTGCTCACCTCTGTGCCCTT
GGCATGATGCCCTCCTCTGTACATCTACTCCAGGGGATCTATGATGGGACCTGAAGGACAAGGTGCCCTATAAAGG
CATCGTATCATCACTGGCCTGGTCTCATTCCTGCACCATAGGGATCGTCCCAAATCTAAACGCCACAATACATGC
GCTATGTCAAGGGAGGGATGATCATCATTCTCTGTGAGTGTGGCCGTACAGTTCTCTGCATCAATGTGGGG
AAGAGCATCATGTTGCCATGACACCACTCTGATTGCCACCTCCCTGATGCCCTCTATTGGCTTCTGCTGGGTTA
TGTTCTCTGCTCTCTGCCCTAATGGACGGTGAGCAGCAGTCAGCATGGAGACTGGATGCCAAATGTCCAAC
TCTGTTCCACCATCTCAATGTGGCTTCCACCTGAAGTCATTGGACCACTTTCTTCTTCCCTCTACATGATT
TTCCAGCTTGGAGAAGGGCTTCCTCATGCCATTGGTCTATGAGAAATTCAAGACTCCCAAGGATAAAACAAA
AATGATCTACACAGCTGCCACAATGAAGAACATTCCAGGAGCTCTGGAAATGGCACCTACAAAGGGAGGACTGCT
CCCCCTTGACAGCCTAGCCCT

Fig. 7

ATGTCTGACTCAGTAATTCTCGAAGTATAAAGAAATTGGAGAGGAGAATGATGGTTTGAGTCAGATAATCATATAA
 TAATGATAAGAAATCAAGGTTACAAGATGAGAAGAAAGGTGATGGCGTTAGAGTTGGCTTCTTC,ATTGTTCGGTTT
 CTTCATCAACTGACATTGGCTGATGTTGTGGAAAGTTGTGCATTCTCCATGGAATAGCCCAGCCAGGCGTGCTA
 CTCATTTGGCACAATGACAGATGTTTATTGACTACGACGTTGAGTTACAAGAACTCCAGATTCCAGGAAAGCATG
 TGTGAATAAACACCATTGTATGGACTAACAGTCCCTCAACCAGAACATGACAAATGGAACACGTTGGGTTGCTGAACA
 TCGAGAGCGAAATGATCAAATTGCCAGTTACTATGCTGGAATTGCTGTCGCAGTACTTATCACAGGATATTC,AAATA
 TGCTTTGGGTCAATTGCCAGCTCGCAGATAACAGAAAATTGAGAAAATTCTTAGGAGAATAATGAGAATGGAAT
 AGGGTGGTTGACTGCAATTCACTGGGGAGCTGAATACAAAGATTCTGATGATAATTAAATAATCAATGATGCCATAG
 CTGACCAAATGCCCTTTCATTCACTGCGCATGACCTCGACCACATCTGGTTCTGTGGATTTCAGGGGTTGGAAA
 CTGACCTGGTTATTCTGTCACTGGCCCTCTCATTGGGATTGGAGCAGCCACCATTGGCTGAGTGTGTCCAGTTAC
 GGACTATGAGCTGAAGGCCTATGCCAAAGCAGGGTGGCTGATGAAGTCATTCAATGAGAACAGTGGCTGCTT
 TTGGTGGTGGAGAAAAGAGAGGTTGAAAGGTATGAGAAAATCTTGTGTCATCTTTGTGTTATGCACTGGCCTCTGGTACGGCTCCACACT
 GTGATGGGATTCTTACTGGATTGTTGCTCATCTTTGTGTTATGCACTGGCCTCTGGTACGGCTCCACACT
 TGTCTGGATGAAGGAGAATATAACCAAGAACCTTGCCAGATTTCTGCAACTGGGATTTCAGTGTCAAGTGGAGCTTAAATCTTG
 GCAATGCCCTCCTGTTGGAAGCCTTGCACACTGGACGTGCGAGCAGCCACCAGCATTGGAGACAAATAGACAGGAAA
 CCCATCATTGACTGCATGTCAGAAGATGGTACAAGTGGATGAAATCAAGGGTGAATTGAATTCCATAATGTGACCTT
 CCATTATCCTCCAGACCAGAGGTTGAAAGATTCTAAATGACCTCAACATGCCATTAAACCAGGGAAATGACAGCTCTGG
 TAGGACCCAGTGGAGCTGGAAAAGTACAGCACTGCAACTCATTCACTGAGATTCTATGACCCCTGTGAAGGAATGGTACCC
 GTGGATGCCATGACATTGCTCTTAACATTCACTGGCTTAGAGATCAGATTGGAGATGTGGAGCAAGAGGCCAGTTCT
 GTTCTCTACCACCATTCAGAAAATTCAGTATGGCAGAGAAGATGCAACAATGGAAGACATAGTCCAAGCTGCCAAGG
 AGGCCAATGCCCTACAACTTCATGGACCTGCCACAGCAATTGACACCCTGTTGGAGAAGGAGGAGGCCAGATGAGT
 GGTGGCCAGAAACAAAGGTAGCTATGCCAGAGCCCTCATCCGAATCCAAAGATTCTGTTGGACATGCCACCTC
 AGCTCTGGACAATGAGAGTGAAGGCATGGTCAAGAAGTGCTGAGTAAGATTCACTGAGATTCTGCACTGGCACACA
 TATTCACTGCTTGTCTACGGTCAGAGCTGCAGATAACCACATTGGTTGAACATGGCACTGCAGTGGAAAGAGGGACCCAT
 GAAGAATTACTGGAAAGGAAAGGTGTTACTCACTGACTTTGCAAAAGCCAGGGAAATCAAGCTCTTAATGAAGA
 GGACATAAAGGATGCAACTGAAGATGACATGCTTGCAGGGACCTTACAGAGGGAGCTACCAGGATAGTTAAGGGCTT
 CCATCCGGCAACGCTCCAAGTCTCAGCTTCTACCTGGTGCACGAACCTCCATTAGCTGTTAGATCATAAGCTACC
 TATGAAGAAGATAGAAAGGACAAGGACATTCCCTGTGCAGGAAGAAGTTGAACCTGCCAGTTAGGAGGATTCTGAAATT
 CAGTGCCTCAGAATGCCCTACATGCTGGTAGGGCTGTTGGTGCAGCTGTGAACGGGACAGTCACACCCTGTATGCC
 TTTTATTCACTGGCAGATTCTGGACTTTCTCAATTCTGATAAAAGAGGAACAAAGGTACAGATCAATGGTGTGCT
 CTTTTGTAGCAATGGCTGTGTATCTCTTCACTGGGATATGCCCTGCTAAATCTGGGAGCTCCT
 AACAAAAAGGCTACGTAATTGGTTCAAGGGCAATGCTGGGCAAGATATTGCCCTGTTGATGACCTCAGAAATAGCC
 CTGGAGCATTGACAACAAGACTTGCTACAGATGCTTCCAAGTTCAAGGGCTGCCGCTCTCAGATGGGATGATAGTC
 AATTCCCTCACTAACGTCACTGGGCCATGATCATTGCCCTCTCCTTAGCTGGAAGCTGCCGTGCTCATCTTGCTT
 CTTCCCTCTGGCTTATCAGGAGCCACACAGACCAGGATGTTGACAGGATTGCCCTCTGAGATAAGCAGGCCCTGG
 AGATGGTGGGACAGATTACAAATGAAGCCCTCAGTAACATCCGCACTGTTGCTGGAATTGGAAAGGGAGGCCGTT
 GAAGCAGTGGAGACTGAGCTGGAGAAGCCCTCAAGACAGCCATTCAAGAAAGCCAATATTACGGATTCTGCTT
 TGCCCACTGCACTGTTATTGCGAATTCTGCTTCTACAGATATGGAGGTTACTTAATCTCAATGAGGGCTCCATT
 TCAGCTATGTTGCAAGGGTGTACTCTGCACTGAGTGCAACAGCTCTGGAAAGAGCCTCTACACCCCAAGT
 TATGCAAAAGCTAAATATCAGCTGCACGCTTTTCACTGCTGGACCGACAACCCCAATCAGTGATACAATACTGC
 AGGTGAAAATGGGACAACCTCCAGGGAAAGATTGATTGTTGATTGAAATTACATATCCTCTCGACCTGACTCGC

AAGTTCTGAATGGTCTCTCAGTGTGATTAGTCCAGGGCAGACACTGGCGTTGTTGGAGCAGTGGATGTGGAAAAGC
ACTAGCATTCAAGCTGTTGGAACGTTCTATGATCCTGATCAAGGGAAAGGTGATGATAGATGGTCATGACAGCAAAAAGT
AAATGTCCAGTTCTCCGCTAAACATTGGAATTGTTCCCAGGAACCAAGTGTGTTGCTGTAGCATAATGGACAATA
TCAAGTATGGAGACAAACACCAAAAGAAATTCCCATGGAAAGAGTCATAGCAGCTGAAAACAGGCTCAGCTGCATGATTT
GTCATGTCACTCCCAGAGAAATATGAAACTAACGTTGGTCCCAGGGTCTCAACTCTCTAGAGGGGAGAAACACGCAT
TGCTATTGCTCGGGCATTGTACGAGATCTAAAATCTGCTACTAGATGAAGCCACTTCTGCCTTAGACACAGAAAGTG
AAAAGACGGTGCAGGTTGCTCTAGACAAAGCCAGAGAGGGTCGGACCTGCATTGTCATTGCCCATCGCTTGTCCACCATC
CAGAACGCGGATATCATTGCTGTATGGCACAGGGGTGGTATTGAAAAGGGGACCCATGAAGAACTGATGGCCAAAAA
AGGAGCCTACTACAAACTAGTCACCACTGGATCCCCATCAGTTGA

Fig. 8

AGTCCAGGAATCATGCTGGAGAAGTTCTGCAACTCTACTTTGGAATTCCCTATTCCCTGGACAGTCCGGAGGCAGACCT
 GCCACTTGTGAGCAAACGTCTGGGTGGATTCCCTGGGCTTCATGGCTCTGGCCCCCTGGCAGCTCTCC
 ACGTGTATAAATCCAGGACCAAGAGATCCTTACACCACAAACTCTATCTGCTAAGCAGGTATTGTTGGCTTCTTCTT
 ATTCTAGCAGCCATAGAGCTGGCCCTGTACTCACAGAAGACTCTGGACAAGGCCACAGTCCCTGCTGTCGATATACCAA
 TCCAAGCCTCTACCTAGGCACATGGCTCTGGTTGCTGATCCAATACAGCAGACAATGGTGTGACAGAAAAACTCCT
 GGTTCTGTCCTATTCTGGATTCTCGATACTCTGTCGACTTTCAATTTCAGACTCTGATCCGGACACTTACAG
 GGTGACAATTCTAACTAGCCTACTCTGCTGTTCTCATCTCCTACGGATTCCAGATCCTGATCCTGATTTTCAGC
 ATTTTCAGAAAATAATGAGTCATCAAATAATCCATCATCCATAGCTTATTCTGAGTAGCATTACAGCTGGTATG
 ACAGCATCATTCTGAAAGGCTACAAGCGTCCCTGACACTCGAGGATGTCTGGGAAGTTGATGAAGAGATGAAAACCAAG
 ACATTAGTGAGCAAGTTGAAACGCACATGAAGAGAGAGCTGCAGAAAGCCAGGCGGGACTCCAGAGACGGCAGGAGAA
 GAGCTCCCAGCAGAACTCTGGAGCCAGGCTGCCTGGCTGAACAAGAATCAGAGTCAAAGCCAAGATGCCCTGTCCTGG
 AAGATGTTGAAAAGAAAAAGAAGTCTGGGACCAAAAAAGATGTTCCAAATCCTGGTTGATGAAGGCTCTGTTCAAA
 ACTTTCTACATGGTGCTCCTGAAATCATTCTACTGAAGCTAGTGAATGACATCTCACGTTGAGTCCTCAGCTGCT
 GAAATTGCTGATCTCCTTTGCAAGTGACCGTGACACATAATTGTTGAGATGATCTCTGCAATCCTTATTCACTG
 CGGCTCTCATTCACTGTTCTGCCTCAGTGTATTCCAAGTGTGCTTCAAGCTGGGTGAAAAGTACGGACAGCTATC
 ATGGCTCTGTATATAAGAAGGCATTGACCCATCCTAACATTGGCCAGGAAGGAGTACACCGTTGGAGAACAGTGAACCT
 GATGTCGTGGATGCCAGAAGCTCATGGATGTGACCAACTTCATGCACATGCTGTTCAAGTGTCTACAGATTGTCT
 TATCTATCTTCTCCTATGGAGAGAGTTGGGACCCCTCAGTCTTAGCAGGTGTTGGGTGATGGTCTTGTAAATCCAATT
 AATGCGATACTGTCCACCAAGAGTAAGACCATTCAAGGTCAAAATATGAAGAATAAAGACAAACGTTAAAGATCATGAA
 TGAGATTCTAGTGGATCAAGATCCTGAAATATTGCTGGGAACCTTCATTCAAGAGACCAAGTACAAAACCTCCGGA
 AGAAAAGAGCTCAAGAACCTGCTGCCCTTAGTCACACTACAGTGTGAGTAATATTGCTTCCAGTTACCCAGTCCTG
 GTATCTGTGGTCACATTCTGTTATGTCCTGGGATAGCAACAATATTGGATGCAACAAAGGCCCTCACCTCCAT
 TACCCCTTCAATATCCTGCCTTCCCTGAGCATGCTCCCATGATGATCTCTCCATGCTCCAGGCCAGTGTCTTCCA
 CAGAGCGGCTAGAGAAGTACTTGGGAGGGATGACTTGGACACATCTGCCATTGACATGACTGCAATTGACAAAGCC
 ATGCAGTTTCTGAGGCCTCCTTACCTGGGACATGATTGGAAGCCACAGTCCGAGATGTGAACCTGGACATTATGGC
 AGGCCAACCTGTGGCTGTGATAGGCCCTGTGGCTCTGGGAAATCTCCTTGATATGCCATGCTGGAGAAATGGAAA
 ATGTCACGGGCACATCACCACAGGGCACCACACTGCCTATGTCCTCAGCAGTCCTGGATTCAAGATGGCACCATAAAG
 GACAACATCCTTTGGAACAGAGTTAATGAAAAGAGGTACCAAGTACTGGAGGCCTGTGCTCTCCAGACTT
 GGAAATGCTGCCCTGGAGGGAGATTGGCTGAGATTGGAGAGAGAAGGGTATAAATCTTAGTGGGGTCAGAAGCAGCGGATCA
 GCCTGGCCAGAGCTACCTACCAAAATTAGACATCTATCTCTAGATGACCCCTGTGCTGAGTGGATGCTCATGTAGGA
 AACACATATTAAAGGTCTGGGCCCAATGCCCTGTTGAAAGCAAGACTCGACTCTGGTTACACATAGCATGCA
 CTTTCTCCTCAAGTGGATGAGATTGAGATTCTGGGAAATGGAACAATTGAGAGAAAGGATCCTACAGTGTCTCCTGG
 CCAAAAAGGAGAGTTGCTAAGAATCTGAAGACATTCTAAGACATACAGGCCCTGAAGAGGAAGGCCACAGTCCATGAT
 GGCAGTGAAGAAGAACAGCATGACTATGGGCTGATATCCAGTGTGGAAGAGATCCCGAAGATGCAAGCTCCGAGAAAC
 CCTTGAAAACCGAAATGTGAATAGCCTGAAGGAAGACGAAGAAACTAGTGAAGGACAAAACATAATTAGAAGGAATTC
 ATAGAAAACGGAAAGGTGAAGTTCTCCATCTACCTGGAGTACCTACAAGCAATAGGATTGTTGATATTCTTCATCAT
 CCTTGCGTTGTGATGAATTCTGTGGCTTTATTGGATCCAACCTCTGGCTCAGTGCTTGACCAGTGACTCTAAATCT
 TCAATAGCACCGACTATCCAGCATCTCAGAGGGACATGAGAGGTTGGAGTCTACGGAGCTGGGATTAGCCCAAGGTATA
 TTTGTGTTCATAGCACATTCTGGAGTGCCTTGGTTCTGTCATGCATCAAATATCTGCAAGCAACTGCTGAACAA
 TATCCTCGAGCACCTATGAGATTGGACACAAACACCCACAGGCCGGATTGTAACAGGTTGCCGGATATTCCA

CAGTGGATGACACCCTGCCTCAGTCCTGCGCAGCTGGATTACATGCTTCCGGGATAATCAGCACCCCTGTCATGATC
TGCATGGCCACTCCTGCTTCACCACATCGTCATTCCCTTGGCATTATTTATGTATCTGTTCAGATGTTTATGTGTC
TACCTCCCGCCAGCTGAGCGTCTGGACTCTGTCAACCAGGTCCCCAATCTACTCTCACTTCAGCGAGACCGTATCAGGTT
TGCCAGTTATCCGTGCCCTTGAGCACCAGCAGCGATTTCTGAAACACAATGAGGTGAGGATTGACACCAACCAGAAATGT
GTCTTTCTGGATCACCTAACAGGTGGCTTGCAATTGCCCTGGAGCTGGTTGGAAACTGACTGTCTTCTTCAGC
CTTGATGATGGTTATTATAGAGATAACCTAACAGTGGGACACTGTTGGCTTGTTCTGTCCAATGCACTCAATATCACAC
AAACCCCTGAACTGGCTGGTGGAGGATGACATCAGAAATAGAGACCAACATTGTGGCTGTTGAGCGAATAACTGAGTACACA
AAAGTGGAAAATGAGGCACCCCTGGGTGACTGATAAGAGGCCTCCGCCAGATTGGCCAGCAAAGGAAGATCCAGTTAA
CAACTACCAAGTGCGGTACCGACCTGAGCTGGATCTGGCCTCAGAGGGATCACTGTGACATTGGTAGCATGGAGAAGA
TTGGTGTGGTGGGCAGGGACAGGGAGCTGAAAGTCATCCCTCACAAACTGCCCTTCAGAATCTTAGAGGCTGCCGGTGGT
CAGATTATCATTGATGGAGTAGATATTGCTTCATTGGGCTCCACGACCTCCGAGAGAAGCTGACCATCATCCCCCAGGA
CCCCATCCTGTTCTCTGGAAGCCTGAGGATGAATCTGACCCCTTCACAACACTACTCAGATGAGGAGATTGGAAAGGCCT
TGGAGCTGGCTCACCTCAAGTCTTGTTGCCCCAGCCTGCAACTGGTTATCCCACGAAGTGACAGAGGCTGGTGGCAAC
CTGAGCATAGGCCAGAGGCAGCTGCTGTGCTGGCAGGGCTCTGCTCGGAAATCCAAGATCCTGGCTGGATGAGGC
CACTGCTGCCGTGGATCTAGAGACAGACAAACCTCATTGACACGACCATCCAAACGAGTTGCCACTGCACAGTGATCA
CCATGCCACAGGCTGCACACCACATGGACAGTGACAAGGTAATGGCCTAGACAACGGGAAGATTATAGAGTGC
AGCCCTGAAGAACTGCTACAAATCCCTGGACCCTTTACTTATGGCTAAGGAAGCTGGCATTGAGAATGTGAACAGCAC
AAAATTCTAG

Fig. 9

GACGGATCGGGAGATCTCCCGATCCCCTATGGTGCACCTCTCAGTACAATCTGCTCTGATGCCGCATAAGCTAAGCCAGTAT
 CTGCTCCCTGCTTGTGTTGGAGGTCGCTGAGTAGTGCGCGAGCAAAATTAAAGCTACAACAAGGCAAGGCTTGACCGA
 CAATTGCAATGAAGAATCTGCTTAGGGTTAGGCCTTGCCTGCTCGCATGTCAGGGCCAGATATAACGCGTTGACATT
 GATTATTGACTAGTTATTAAATAGTAATCAATTACGGGTCTAGTCATAGCCATATAATGGAGTCCGCTTACATCAA
 CTTACGGTAAATGGCCCGCCTGGCTGACCGCCAAACGACCCCGCCCATTGACGTCAATAATGACGTATGTTCCCATAGT
 AACGCCAATAGGGACTTCCATTGACGTCAATGGGTGGAGTATTACGGTAAACTGCCACTTGGCAGTACATCAAGTGT
 ATCATATGCCAAGTACGCCCTATTGACGTCAATGACGGTAAATGGCCGCTGGCATTATGCCAGTACATGACCTTA
 TGGGACTTCCACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTATGCCGTTGGCAGTACATCAA
 TGGCGTGGATAGCGGTTGACTCACGGGATTCCAAGTCTCCACCCATTGACGTCAATGGGAGTTGTTGGCACC
 AAAATCAACGGACTTCCAAAATGTCGTAACAACCTCCGCCATTGACGAAATGGCGGTAGGCCTGTACGGTGGGAG
 GTCTATATAAGCAGAGCTCTGGCTAACTAGAGAACCCACTGCTTACTGGCTTATCGAAATTAAACGACTCACTATAG
 GGAGACCCAAAGCTGGCTAGCGTTAAACTTAAGCTTGGTACCGAGCTGGATCCAGGAGGATGGAGGCCAACCGCT
 CTGCCCTATTCAACTTCACCCGCCACCAACTTGGCAAGGCCAACAGACCTGGCACTGAGCGTCATCCTGGTGTTC
 ATGTTGTTCTTCATCATGCTCTCGCTGGCTGCACCATTGGAGTTCAAGATCAAGGCTCACTTATGGAAGCCTAAAGG
 GCTGGCCATGCCCTGGTGGCACAGTATGGCATCATGCCCTCACGGCTTGTGCTGGCAAGGTCTCCGGCTGAAGA
 ACATTGAGGCACTGCCATTGGCTGTGGCTGCTCACCTGGAGGGAACCTGCTTCAATGCTTCACTGGCCATGAAG
 GGGGACATGAACCTCAGCATTGTGATGACCACCTGCTCCACCTTCTGTGCCCTGGCATGATGCCCTCCTGTACAT
 CTACTCCAGGGGATCTATGATGGGACCTGAAGGACAAGGTGCCCTATAAAGGCATCGTGTATCACTGGCCTGGTTC
 TCATTCCCTGCACCATAGGGATCGCCTCAAATCTAAACGCCACAATACATGCGCTATGTCATCAAGGGAGGGATGATC
 ATCATTCTTGTGCACTGGCTGCTCACAGTTCTCTGCCATCAATGTGGGAAAGAGCATCATGTTGCCATGACACC
 ACTCTTGATTGCCACCTCCCTGATGCCCTTCTATTGGCTTCTGCTGGTTATGTTCTCTGCTCTCTGCCCTCA
 ATGGACGGTGCAGACCACTGTCAGCATGGAGACTGGATGCCAAATGTCCAACCTGTTCCACCCTCAATGTGGCC
 TTTCCACCTGAAGTCATTGGACCACTTTCTTCCCTCTACATGATTTCCAGTGGAGAAGGGCTTCTCCT
 CATTGCCATATTGGTCTATGAGAAATTCAAGACTCCAAAGGATAAAACAAAATGATCTACACAGCTGCCACA
 AAGAAACAATTCCAGGAGCTCTGGAAATGGCACCTACAAAGGGAGGACTGCTCCCTTGACAGCCTAGCCCT
 AGGGCCGTTAAACCGCTGATCAGCCTCGACTGTGCCCTAGTTGCCAGCCATCTGTGTTGCCCTCCCCGTGC
 CTTCCCTGACCCCTGGAAAGGTGCCACTCCACTGCTCTTCTAATAAAATGAGGAAATTGATCGCATTGCTGAGTAGG
 TGTCATTCTATTCTGGGGGTGGGTGGCAGGACAGCAAGGGGAGGATTGGGAAGACAATAGCAGGCATGCTGGGAG
 TGCGGTGGCTCTATGGCTCTGAGCGGAAAGAACAGCTGGGCTCTAGGGGTATCCCACGCCCTGTAGCGGCG
 CATTAAAGCGCGGGGTGTGGTTACGCCAGCGTACCGCTACACTGCCAGGCCCTAGGCCCTCGCTTCTGCT
 TTCTCCCTCTTCTGCCAGTTCGCCCTTCCCGTCAAGCTCTAAATGGGGCTCCCTTGGTTCGATT
 TAGTGCTTACGGCACCTCGACCCAAAAACTTGATAGGGTATGGTCACTGAGTGGCCATGCCCTGATAGACGG
 TTTTCGCCCTTGACGTTGGAGTCCACGTTCTTAATAGTGGACTCTGTTCCAAACTGGAACAACACTCAACCTATC
 TCGGTCTATTCTTTGATTTATAAGGGATTTGCCATTGCGCTTGGTAAAGGCTGAGCTGATTTAACAAAATT
 TAACGCGAATTAAATTCTGTGGAATGTGTCAGTTAGGGTGTGAAAGTCCCAGGCTCCAGCAGGCAGAAGTATGCA
 AAGCATGCACTCAATTAGTCAGCAACCAGGTGTGAAAGTCCCAGGCTCCAGCAGGCAGAAGTATGCAAAGCATGC
 ATCTCAATTAGTCAGCAACCAGGTGTGAAAGTCCCAGGCTCCAGCAGGCAGAAGTATGCAAAGCATGC
 CCGCCCCATGGCTGACTAATTCTTATGCAAGAGGCCAGGCTTGGAGGCTGAGCTTCCAGAAGTATGCAAGAGA
 AGGAGGCTTTGGAGGCCAGGCTTGGAGGCTTGGAGGCTTGGAGGCTTGGAGGCTTGGAGGCTTGGAGGCTTGG
 CAGGATGAGGATCGTTGCAATTGAAAGATGGATTGACACGAGGTTGCCAGGCTTCCGGCCCTGGGTGGAGGCTATT

GGCTATGACTGGGCACAAACAGACAATCGGCTGCTCTGATGCCGCCGTGTTCCGGCTGTCAGCGCAGGGCGCCGGTTCT
TTTGTCAAGACCGACCTGTCCGGTGCCTGAATGAACCTGAGGACGAGGCAGCGCGGCTATCGTGGCTGGCCACCGACGG
GCCTTCCTGCGCAGCTGTGCTCGACGTTGCACTGAAGCGGAAGGGACTGGCTGCTATTGGCGAAGTGCCGGGGCAG
GATCTCCTGTCATCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCCGCCGTGCATACGCTTGA
TCCGGCTACCTGCCATTGACCAAGCGAAACATCGCATCGAGCAGCACGACTCGGATGGAAGCCGGTCTGTGCG
ATCAGGATGATCTGGACGAAGAGCATCAGGGCTCGGCCAGCCGAACCTGTTGCCAGGCTCAAGGCCGATGCCCGAC
GGCGAGGATCTCGTGTGACCCATGGCGATGCCGCTTGCGAATATCATGGTGGAAAATGGCGCTTCTGGATTGAT
CGACTGTGGCCGGCTGGGTGTGGCGGACCGCTATCAGGACATAGCGTGGCTACCGTGATATTGCTGAAGAGCTGGCG
GCGAATGGGCTGACCGCTTCTCGTGTGCTTACGGTATGCCGCTCCGATTCCGAGCGCATGCCCTTATGCCCTTCTT
GACGAGTTCTCTGAGCGGGACTCTGGGTTGAAATGACCGACCAAGCGACGCCAACCTGCCATCAGGAGATTCGAT
TCCACCGCCGCTTCTATGAAAGGTTGGGCTCGGAATCGTTTCCGGACGCCGGCTGGATGATCCTCCAGCGCGGGGA
TCTCATGCTGGAGTTCTCGCCACCCCAACTGTTATTGAGCTTATAATGGTTACAAATAAGCAATAGCATCACAA
ATTTACAAATAAGCATTTTCACTGCATTCTAGTTGTGGTTGTCACATCAATGTATTTATCATGCTGT
ATACCGTCGACCTCTAGCTAGAGCTTGGCGTAATCATGGTCAAGCTGTTCCGTGTGAAATTGTTATCCGCTCACAA
TCCACACAAACATACGAGCCGGAAGCATAAAAGTGTAAAGCCTGGGTGCTTAATGAGTGAGCTAACTCACATTAAATTGCGT
TGCCTCACTGCCGCTTCCAGTCGGAAACCTGCTGCGCCAGCTGCATTAATGAAATGCCAACGCCGGGGAGAGGC
GGTTTGCCTATTGGCGCTTCCGCTTCCTCGCTACTGACTCGCTGCCGCTGGCTGGCGAGCGGTATC
AGCTCACTCAAAGGCCGTAATACGGTTATCCACAGAAATCAGGGATAACGCAGGAAAGAACATGTGAGCAAAGGCCAGC
AAAAGGCCAGGAACCGTAAAAGGCCGCTGCTGGGTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAT
CGACGCTCAAGTCAGAGGTGGGAAACCCGACAGGACTATAAGATAACCAGCGTTCCCGTGGAGCTCCCTCGTGC
CTCTCCTGTTCCGACCCCTGCCGTTACCGGATACCTGTCGCCCTTCTCCCTCGGGAGCGTGGCGTTCTCATAGCT
CACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTCGCTCCAAGCTGGCTGTGACGAACCCCCGTTAGCCG
CGCTGCCCTTATCCGTAACTATCGTCTTGAGTCCAACCCGTAAGACACGACTATGCCACTGGCAGCCACTGG
TAACAGGATTAGCAGAGCGAGGTATGTAGGGCGTGTACAGAGTTCTGAAAGTGGTGGCTAACACTAGGCTACACTAGAA
GAACAGTATTGGTATCTCGCCTCTGCTGAAGCCAGTTACCTCGAAAAAGAGTTGGTAGCTTGTGATCCGGAAACAA
ACCACCGCTGGTAGCGGTTTTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAAGGATCTCAAGAAGATCCTTGAT
CTTTCTACGGGTCTGACGCTCAGTGGAAACGAAACTCACGTTAAGGGATTGGTCATGAGATTATCAAAAAGGATCT
TCACCTAGATCCTTTAAATTAAAAATGAAGTTAAATCAATCTAAAGTATATGAGTAAACTTGGTCTGACAGTTAC
CAATGCTTAATCAGTGGCACCTATCTCAGCGATCTGCTATTGCTCATCCATAGTTGCCCTGACTCCCCGTGCTGTA
GATAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGTGCAATGATAACCGCGAGACCCACGCTCACGGCTCCAG
ATTTATCAGCAATAAACCGCCAGCGGAAGGGCCGAGCGCAGAACGTTGGCTCTGCAACTTATCCGCTCCATCCAGTCT
ATTAATTGTTGCCGGAAAGCTAGAGTAAGTAGTTGCCAGTTAATAGTTGCCAACGTTGGCTGCCATTGCTACAGGCAT
CGTGGTGTACGCTCGTGTGGTATGGCTTCAATTCAAGCTCCGGTCCCAACGATCAAGCGAGTTACATGATCCCCA
TGTTGTGCAAAAAGCGTTAGCTCCTCGTCTCCGATCGTTGTCAGAGTAAGTTGGCGCAGTGTATCAGTCAT
GTTATGGCAGCACTGCTAATTCTTACTGTCATGCCATCCGTAAGATGCTTCTGTGACTGGTGGAGTACTCAACCAA
GTCATTCTGAGAATAGTGTATGCCGACCGAGTTGCTCTGCCGGCGTCAATACGGATAATACCGGCCACATAGCA
GAACTTAAAAGTGTGTCATCATTGGAAAAGCTTCTCGGGCGAAAACCTCAAGGATCTACCGCTGTGAGATCCAGT
TCGATGTAACCCACTCGTCACCCAACTGATCTTCAGCATCTTACTTACCTCAGCGTTCTGGGTGAGCAAAACAGG
AAGGCAAAATGCCGAAAAAGGAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTCCTTTCAATATTATT
GAAGCATTATCAGGGTTATTGTCATGAGCGGATACATATTGAATGTATTAGAAAATAACAAATAGGGGTTCCG
CGCACATTCCCCGAAAAGTGCCACCTGACGTC

Fig. 10

GACGGATCGGGAGATCTCCGATCCCTATGGTCGACTCTCAGTACAATCTGCTCTGATGCCGATAGTTAAGCCAGTAT
 CTGCTCCCTGCTTGTGTTGGAGGTCGCTGAGTAGTGCGCGAGCAAAATTAAAGCTACAACAAGGCAAGGCTTGACCGA
 CAATTGCGATGAAGAATCTGCTTAGGGTTAGGCCTTGCCTGCGATGTACGGCCAGATATACGCGTTGACATT
 GATTATTGACTAGTTATTAAATAGAATCAATTACGGGTCAATTAGGCTATAGCCATATATGGAGTTCCGCTTACATAA
 CTTACGGTAAATGGCCCGCCTGGCTGACCGCCAAACGACCCCGCCATTGACGTCAATAATGACGTATGTTCCCATAGT
 AACGCCAATAGGGACTTCCATTGACGTCAATGGGTGGACTATTACGGTAAACTGCCACTTGGCAGTACATCAAGTGT
 ATCATATGCCAAGTACGCCCTATTGACGTCAATGACGGTAAATGGCCCGCTGGCATTATGCCACTACATGACCTTA
 TGGGACTTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTATGCGGTTGGCAGTACATCAA
 TGGCGTGGATAGCGGTTGACTCACGGGATTCCAAGTCTCCACCCATTGACGTCAATGGAGTTGGTGGCACC
 AAAATCAACGGGACTTCCAAAATGCGTAACAACCTCCGCCATTGACGCAAATGGCGTAGGCCTGACGGTGGGAG
 GTCTATATAAGCAGAGCTCTGGCTAACTAGAGAACCCACTGCTTACTGGCTTATGAAATTAAATACGACTCACTATAG
 GGAGACCCAAGCTGGCTAGCGTTAAACTTAAGCTATCACAAGTTGTACAAAAAAGCAGGCTTAGGAATGTCTGACTCA
 GTAATTCTCGAAGTATAAGAAATTGGAGAGGAGAATGATGGTTTGAGTCAGATAAAATCATATAAATGATAAGAA
 ATCAAGGTACAAGATGAGAAGAAAGGTATGGCTTAGAGTTGGCTTCTTCATTGTTGGTTCTTCATCAACTG
 ACATTGGCTGATGTTGGAGTTGTGCATTCTCATGGAATAGCCAGCCAGCGTGTACTCATTTGGC
 ACAATGACAGATGTTTATTGACTACGACGGTGAAGTTACAAGAACACTCCAGATTCCAGGAAAGCATGTGTGAATAACAC
 CATTGTATGGACTAACAGTCCCTCAACCAGAACATGACAAATGGAACACGTTGGCTGCTGAACATCGAGAGCGAA
 TGATCAAATTGCCAGTTACTATGCTGGAATTGCTGCGACTTATCACAGGATATATTCAAATATGCTTTGGC
 ATTGCCAGCTCGCAGATACAGAAAATTGAGAAAATTCTTAGGAGAATAATGAGAATGAAATAGGGTTG
 CTGCAATTCACTGGGGAGCTGAATACAAGATTCTCTGATGATATTAAATAAAATCAATGATGCCATAGCTGACCAATGG
 CCCTTTCAATTCCAGGCCATGACCTCGACCATCTGTGGTTCTGTGGATTTCAGGGTTGGAAACTGACCTGGTT
 ATTATTCCTGTCAGCCCTCATGGGATTGGAGCAGCCACCATTGGCTGAGTGTCCAAGTTACGGACTATGAGCT
 GAAGGCCTATGCCAAGCAGGGGGGGCTGATGAAGTCATTCAATGAGAACAGTGGCTGCTTTGGTGG
 AAAGAGAGGTTGAAAGGTATGAGAAAATTCTGTTGGCTGCCAGCGTTGGGAAATTAGAAAAGGAATAGTGAATGGGATT
 TTTACTGGATTCTGTTGGCTCATCTTTGTGTTATGCACTGGCTTCTGGTACGGCTCCACACTGTGCTGATGA
 AGGAGAATATACACCAGGAACCCCTGTCAGGATTTCTCAGTGTCAAGTAGGAGCTTAAATCTGGCAATGCCCTC
 CTTGTTGGAAAGCCTTGCAACTGGACGTGAGCAGCCACCGAGATTGAGACAATAGACAGGAAACCCATCATGAC
 TGCATGTCAGAAGATGGTACAAGTGGATGCAATCAAGGGTAAATTGAATTCCATAATGTCACCTCCATTATCCTC
 CAGACCAGAGGTGAAGATTCTAAATGACCTCAACATGCCATTAAACCAGGGAAATGACAGCTCTGGTAGGACCCAGTG
 GAGCTGGAAAAAGTACAGCACTGCAACTCATTAGCGATTCTATGACCCCTGTGAAGGAATGGTACCGTGGATGCCAT
 GACATTGCTCTTAAACATTCACTGGCTTAGAGATCAGATTGGGATAGTGGAGCAAGAGCCAGTTCTGTTCTTACAC
 CATTGCAAGAAAATTGCTATGGCAGAGAAGATGCAACAATGAAAGACATAGTCCAAGCTGCCAGGAGGCAATGCC
 ACAACTTCATCATGGACCTGCCACAGCAATTGACACCTTGTGGAGAAGGAGGAGGCCAGATGAGTGGTGGCAGAAA
 CAAAGGGTAGCTATGCCAGAGCCCTCATCCGAAATCCAAGATTCTGCTTTGGACATGCCACCTCAGCTCTGGACAA
 TGAGAGTGAAGCCATGGTCAAGAAGTGTGAGTAAGATTCACTGGCACACAATCATTGCTCATGCTTGT
 CTACGGTCAGAGCTGAGATACCATATTGGTTTGAAACATGGCACTGCGACTGCGAGTGGAAAGAGGGACCCATGAAGAATTACTG
 GAAAGGAAAGGTGTTACTTCACTCTAGTGAACGGCAGGGAAATCAAGCTCTTAATGAAAGAGGACATAAAGGA
 TGCAACTGAAGATGACATGCTTGGAGGACCTTAGCAGAGGGAGCTACCAGGATAGTTAAGGGCTTCCATCCGCAAC
 GCTCCAAGTCTCAGCTTCTTACCTGGTGCAGAACCTCATTAGCTGTTGAGTCATAAGTCTACCTATGAAAGAAGAT
 AGAAAGGACAAGGACATTCCGTGAGGAAGATTGAACCTGCCAGTTAGGAGGATTCTGAAATTCACTGCTCCAGA

ATGGCCCTACATGCTGGTAGGGCTGTGGGTGCAGCTGTGAACGGGACAGTCACACCCCTGTATGCCCTTTATTCAAGCC
AGATTCTGGGACTTTCAATTCTGATAAAAGAGGAAACAAAGGTACAGATCAATGGTGTGTGCCTACTTTTAGCA
ATGGGCTGTGTATCTCTTCAACCCAAATTCTACAGGGATATGCCCTTGCTAAATCTGGGGAGCTCTAACAAAAGGCT
ACGTAAATTGGTTTCAGGGCAATGCTGGGGCAAGATATTGCCCTGGTGTAGACCTCAGAAATAGCCCTGGAGCATTGA
CAACAAGACTTGCTACAGATGCCCTCAAGTTCAAGGGCTGCCGGCTCAGATCGGGATGATAGTCATTCCTCACT
AACGTCACTGTGGCATGATCATTGCCCTCTTAGCTGGAAGCTGAGCCTGGTGTCTTGCTGCTCTTCCCTTCTT
GGCTTATCAGGAGCCACACAGACCAGGATGTTGACAGGATTGCTCTCGAGATAAGCAGGCCCTGGAGATGGTGGAC
AGATTACAAATGAAGCCCTCAGTAACATCCGACTGTTGCTGAAATTGAAAGGGAGGGCGGTCATTGAAGCAGTTGAG
ACTGAGCTGGAGAAGCCCTCAAGACAGCATTCAAGAAAGCCAATATTACGGATTCTGCTTGCCTTGCCTTGCCTTGC
CATGTTATTGCGAATTCTGCTTCTACAGATATGGAGGTTACTTAATCTCAATGAGGGCTCCATTCAAGCTATGTGT
TCAGGGTGTCTCTGAGTTGACTGAGTCACAGCTCTGGAAAGAGCCTCTTACACCCCAAGTTATGCAAAAGCT
AAAATATCAGCTGCACGCTTTCAACTGCTGGACCGACAACCCCAATCAGTGTATACAATACTGAGGTGAAAAATG
GGACAACCTCCAGGGAGATTGATTGATTGAAATTACATATCCTCTCGACCTGACTCGCAAGTTCTGAATG
GTCTCTCAGTGTGAGTTGACTGCTGGAGCAGACACTGGCTTGTGGAGCAGTGGATGTGGCAAAGCACTAGCATTGAG
CTGTTGGAACGTTCTATGATCCTGATCAAGGGAGGTGATGATAGATGGTGTACAGCAGCAAAAGTAAATGTCCAGTT
CCTCCGCTCAAACATTGAAATTGTTCCAGGAACCAGTGTGTTGCCTGTAGCATAATGGACAATATCAAGTATGGAG
ACAACACCAAAGAAATTCCATGGAAAGAGTCATAGCAGCTGAAACACAGGCTCAGCTGCATGATTTGTCACTGCACTC
CCAGAGAAATATGAAACTAACGTTGGTCCCAGGGCTCAACTCTAGAGGGAGAAACAACGCAATTGCTATTGCTCG
GGCATTGTACGAGATCCTAAATCTGCTACTAGATGAAGCCACTCTGCCTTAGACACAGAAAGTGAAAAGACGGTGC
AGGTTGCTCTAGACAAAGCCAGAGGGTCCGACCTGCATTGTCATTGCCATCGCTTGTCCACCATCCAGAACGCGGAT
ATCATTGCTGTATGGCACAGGGGTGGTGTGATTGAAAAGGGGACCCATGAAGAACTGATGGCCAAAAAGGAGCCTACTA
CAAACATAGTCACCCTGGATCCCCATCAGTTGAGACCCAGCTTCTGTACAAAGTGGTATTGGTACCGAGCTCGGAT
CCACTAGTCCAGTGTGGTGAATTCTGAGATATCCAGCACAGTGGCGGCCCTCGAGTCTAGAGGGCCGTTAAACCC
GCTGATCAGCCTCGACTGTGCCCTCTAGTTGCCAGCCATCTGTTGCCCTCCCCGTGCCCTCCTGACCTGGAA
GGTGCCACTCCACTGTCTTCTTAATAAAATGAGGAAATTGATCGCATTGCTGTAGTGGTGTCAATTCTATTCTGG
CTTCTGAGGCGGAAAGAACGAGCTGGGCTCTAGGGGATCCCCAGCGCCCTGTAGCGCGCATTAGCGCAGGG
GTGGTGGTTACGCGCAGCGTACCGCTACACTGCCAGGCCCTAGCGCCCGCTCTTCCGTTCTCCCTTCCCTTCT
CGCCACGTTGCCGGCTTCCCCGTCAAGCTCTAAATCGGGCATCCCTTAGGTTCCGATTAGTGTCTTACGGCACC
TCGACCCCCAAAAACTGATTAGGGTGTGTTCACGTTGAGCTGGCCATCGCCCTGATAGACGGTTTCGCCCTTGACG
TTGGAGTCCACGTTCTTAATAGTGGACTCTGTTCAAACCTGGAAACAACACTCAACCCATCTCGGTCTATTCTTGA
TTTATAAGGGATTTGGGATTCGGCTATTGGTAAAAATGAGCTGATTAAACAAAATTAAACGCGAATTAAATTCT
GTGGATGTGTGTAGTTAGGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGAGAAGTATGCAAAGCATGCATCTCAAT
TAGTCAGCAACCAGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGAGAAGTATGCAAAGCATGCATCTCAATTAGTCAGC
AACCATAGTCCGCCCTAATCCGCCATCCGCCCTAATCCGCCCTAGCTCCGCCATTCTCCGCCATGGCTGAC
TAATTTTTTATTATGAGAGGCCAGGGCGCTCTGCTCTGAGCTATTCCAGAAGTAGTGTAGGAGGCTTTGGAG
GGCCTAGGCTTTGCAAAAAGCTCCGGAGCTTGATATCCATTGCGATGTCAGCACGTGTGACAATTAAATCA
TCGGCATAGTATATCGGCATAGTATAATCGACAAGGTGAGGAACCTGGCCAAGTTGACCGAGTGGCGTCCACGAA
GCTCACCGCGCGACGTGCCGGAGCGGTGAGTTGACCGAGCCGCTGGGTTCTCCGGGACTCGTGGAGGACG
ACTTCGCCGGTGTGGTCCGGGACGACGTGACCCCTGTTCATCAGCGCGTCCAGGACCAGGTGGTGGGACAACACCC
GCCCTGGGTGTGGTGCAGCGGCCCTGGACGAGCTGTACGCCAGTGGTGTGGAGGTCGTGTCCACGAACTCCGGGACGCC
CGGGCCGGCCATGACCGAGATCGGCAGGCAGCGTGGGGGGAGTTGCCCTGCGCACCCGGGGCAACTCGTGC
ACTTCGTGGCGAGGAGCAGGACTGACACGTGCTACGAGATTGATCCACCGCCCTCTATGAAAGGTTGGCTTC
GGAATCGTTTCCGGACGCCGGCTGGATGATCCTCACGCGGGGATCTCATGCTGGAGTTCTGCCACCCCAACTT

TTTTATTGCAGCTTATAATGGTTACAAATAAGCAATAGCATCACAAATTTCACAAATAAGCATTTCAGCTGCATT
CTAGTTGGTTGCCAAACTCATCAATGTATCTTATCATGTCGTACCGTCGACCTCTAGCTAGAGCTTGGCGTAA
TCATGGTCATAGCTTTCTGTGTGAAATTGTTATCCGCTCACAAATTCCACACAACATACGAGCCGGAGCATAAAAGTG
TAAAGCCTGGGTGCCATTAGAGCTAACATCACATTAAATTGCGTTGCGCTCACTGCCGTTCCAGTCGGAAACC
TGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGGGGAGAGGCGGTTGCGTATTGGCGCTTCCGCTTCCTCG
CTCACTGACTCGCTGCGCTGGCGTCCGAGCGGTATCAGCTCACTCAAAGCGGTAAACGGTTATCCAC
AGAATCAGGGATAACGCAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGTTGC
TGGCGTTTCCATTAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGTGGCGAAACCCGACA
GGACTATAAAGATAACCAGGCCTTCCCCCTGGAAGCTCCCTCGTGCCTCCTGTTCCGACCCGCCCTACCGATA
CCTGTCGCCCTTCTCCCTCGGAAGCGTGGCGTTCTCAATGCTCACGCTGTAGGTATCTCAGTTGGTAGGTG
TTCGCTCCAAGCTGGCTGTGACGAACCCCCCTGTCAGCCCGACCGCTGCCCTATCGGTAACTATCGTCTTGAG
TCCAACCCGGTAAGACACGACTTATGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCAGGTATGTAGGCC
TGCTACAGAGTTCTGAAGTGGTGGCTAACTACGGTACACTAGAAGGACAGTTGGTATCTGCCTGCTGAAGC
CAGTTACCTCGGAAAAAGAGTTGGTAGCTTGTACCGGAAACAAACCACCGCTGGTAGCGGTGGTTTTGTTG
AAGCAGCAGATTACCGCAGAAAAAGGATCTAACAGAAGATCCTTGATCTTCTACGGGTCTGACGCTCAGTGGAA
CGAAAACACGTTAAGGGATTGGTATGAGATTATCAAAAGGATCTCACCTAGATCCTTAAATTAAAAATGAA
GTTTAAATCAATCTAAAGTATATGAGTAAACCTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGACCTATCTCA
GCGATCTGCTATTGTTGTCATCCATAGTTGCCCTGACTCCCCGTCGTGTAGATAACTACGATAACGGAGGGCTTACCATC
TGGCCCAAGTGCATGCAATGATACCGCGAGACCCACGCTACCGGCTCCAGATTATCAGCAATAAACCAAGCCAGCCGGAA
GGGCCGAGCGCAGAAGTGGTCTGCAACTTATCCGCTCCATCCAGTCTATTAAATTGTTGCCGGAAAGCTAGAGTAAGT
AGTCGCAGTTAATAGTTGCCAACGTTGCTACAGGATCGTGTGTCACGCTCGTGTGTTGGTATGGC
TTCATTCAAGCTCCGGTCCCAACGATCAAGGCAGTTACATGATCCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTCG
GTCCTCCGATCGTTGTCAGAAGTAAGTTGCCAGTGTATCATGGTTATGGCAGCACTGCATAATTCTCTTACT
GTCATGCCATCCGTAAGATGTTCTGTGACTGGTAGTACTCAACCAAGTCATTCTGAGAATAGTGTATGCCGAC
GAGTTGCTCTGCCGGCGTCAATACGGATAATACCGGCCACATAGCAGAACTTAAAGTGTCTCATGGAAAAC
GTTCTCGGGCGAAAACCTCAAGGATCTTACCGCTGTTGAGATCCAGTGTAAACCAACTCGTGCACCCACTGA
TCTTCAGCATCTTACTTCAACCAGCTTCTGGGTGAGCAAAACAGGAAGGCAAAATGCCGAAAAAGGGATAAG
GGCGACACGGAAATGTTGAATACTCATACTCTTCAATATTATTGAAGCATTATCAGGGTTATTGTCATGA
GCGGATACATATTGAATGTATTAGAAAAATAACAAATAGGGTCCGCCACATTCCCGAAAAGTGCACCTGAC
GTC

Fig. 11

GACGGATCGGAGATCTCCGATCCCCTATGGTCGACTCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGTAT
 CTGCTCCCTGCTTGTGGAGGTCGCTGAGTAGTGCAGCAGCAAAATTAAAGCTACAACAAGGCAAGGCTTGACCGA
 CAATTGCATGAAGAATCTGCTTAGGGTTAGGCCTTGCCTGCTCGCAGTGTACGGGCCAGATATACGCCTGACATT
 GATTATTGACTAGTTATTAAAGTAATCAATTACGGGTCATTAGTCATAGCCATATATGGAGTCCCGTACATA
 CTTACGGTAAATGGCCCGCCTGCTGACCGCCCAACGACCCCGCCATTGACGTCAATAATGACGTATGTTCCCATAGT
 AACGCCAATAGGGACTTCCATTGACGTCAATGGTGGACTATTACGGTAAACTGCCACTGGCAGTACATCAAGTGT
 ATCATATGCCAAGTACGCCCTATTGACGTCAATGACGGTAAATGGCCCGCTGGCATTATGCCAGTACATGACCTTA
 TGGGACTTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTATGCCGTTTGGCAGTACATCAA
 TGGGCGTGGATAGCGGTTGACTCACGGGATTCCAAGTCTCCACCCATTGACGTCAATGGGAGTTGTTGGCACC
 AAAATCAACGGGACTTCCAAAATGTCGTAACAACCTCCGCCATTGACGCAAATGGCGGTAGGCGTGTACGGGGAG
 GTCTATATAAGCAGAGCTCTGGCTAACTAGAGAACCCACTGCTTACTGGCTTATCGAAATTAAACGACTCACTATAG
 GGAGACCCAAGCTGGCTAGCAGTCCAGGAATCATGCTGGAGAAGTCTGCAACTCTACTTTGGAAATTCCCTCATCCCTG
 GACAGTCCGGAGGCAGACCTGCCACTTGTGGAGCAAACCTGTTCTGGTGTGGATTCCCTGGCTTATGGCTCCT
 GGCCCCCTGGCAGCTCTCACGTATAAATCCAGGACCAAGAGATCCTCTACCACCAAACCTATCTGCTAAGCAGG
 TATTGCTGGTTTCTTCTTATTCTAGCAGCCATAGAGCTGGCCCTGTACTCACAGAAGACTCTGGACAAGCCACAGTC
 CCTGCTGTTGATATACCAATCCAAGCCTCTACCTAGGCACATGGCCTGGTTTGTGATCCAATACAGCAGACAATG
 GTGTGTACAGAAAAACTCCTGGTCTGTCCCTATTCTGATTCTCGATACTCTGTGGACTTCCAATTTCAGACTC
 TGATCCGGACACTCTACAGGGTGACAATTCTAACTAGCCTACTCCTGCCTGTTCTCATCCTACGGATTCCAGATC
 CTGATCCTGATCTTCAGCATTTCAGAAAATAATGAGTCATCAAATAATCCATCATCCATAGCTTCAATTCTGAGTAG
 CATTACCTACAGCTGGTATGACAGCATCTGAAAGGCTACAAGCGTCTGACACTCGAGGATGTCTGGAAAGTTG
 ATGAAGAGATGAAAACCAAGACATTAGTGAGCAAGTTGAAACGCACATGAAGAGAGAGCTGAGAAAGCCAGGGCA
 CTCCAGAGACGGCAGGAGAAGAGCTCCAGCAGAAACTCTGGAGCCAGGCTGCCCTGGCTGAACAAGAAATCAGAGTC
 CAAAGCCAAGATGCCCTGTCCCTGGAAGATGTTGAAAAGAAAAAGAAGTCTGGACCAAAAGATGTTCAAATCCTGGT
 TGATGAAGGCTCTGTCAAAATTCTACATGGTCTCTGAAATCATTCTACTGAAGCTAGTGAATGACATCTCAG
 TTTGTGAGCTCTCAGCTGCTGAAATTGCTGATCTCCTTGCAAGTGCACGTCACATATTGTGGATTGGATATCTG
 TGCAATCCTCTTATTCACTGGCTCTCATTCACTGCTTCTGCTTCAGTGTATTGTTCAACTGTGCTTCAAGCTGGTG
 TAAAAGTACGGACAGCTATCATGGCTCTGTATATAAGAAGGCATTGACCCATCCTAACTGGCCAGGAAGGAGTACACC
 GTTGGAGAAAAGCTGAAACCTGATGTCTGTGGATGCCAGAAGCTCATGGATGTGACCAACTTCTGACATGCTGTGGC
 AAGTGTCTACAGATTGTCTTATCTATCTTCTCTATGGAGAGAGTTGGACCCCTCAGTCTTAGCAGGTGTGGGTGA
 TGGTCTGTAATCCAATTAAATGCGATACTGTCCACCAAGAGTAAGACCATTAGGTAAAATATTTGCCCTGGAAACCTTC
 AACGTTAAAGATCATGAATGAGATTCTTAGTGGAAATCAAGATCCTGAAATATTGCTGGATAGCAACAATATTGGATG
 CCAAGTACAAAACCTCCGAAGAAAGAGCTCAAGAACCTGCTGCCCTTAGTCAACTACAGTGTGAGTAATATTGCT
 TCCAGTTAACTCCAGCTGGTATCTGTGGTCACATTCTGTTATGCTCTGGATAGCAACAATATTGGATG
 CAAAAGGCCCTCACCTCCATTACCCCTCTCAATATCCTGCCTTCCCTGAGCATGCTCCCATGATGATCTCCCAT
 GCTCCAGGCCAGTGTCCACAGAGCGCTAGAGAAGTACTTGGAGGGATGACTTGGACACATCTGCCATTGACATG
 ACTGCAATTGACAAAGCCATGCACTTCTGAGGCCCTTACCTGGGAACATGATTGGAAGGCCACAGTCCGAGAT
 GTGAACCTGGACATTATGGCAGGCCAACCTGTGGCTGTGATAGGCCCTGTCGGCTCTGGAAATCCTCTTGTATCAG
 CATGCTGGAGAAATGAAAATGTCACGGCACATCACCCTCAAGGGCACCCTGCCTATGTCCCACAGCAGTCTGG
 TTCAGAATGGCACCATAAAGGACAACATCCTTTGGAACAGAGTTAATGAAAAGAGGTACAGCAAGTACTGGAGGCC
 TGTGCTCTCCTCCCAGACTTGGAAATGCTGCCCTGGAGGAGATTGGCTGAGATTGGAGAGAAGGGTATAAATCTTAGTGG
 GGGTCAGAAGCAGCGGATCAGCCTGCCAGAGCTACCTACCAAAATTAGACATCTTAGATGACCCCTGTCTG

DEAV2004-0025.txt
SEQUENCE LISTING

<110> Aventis Pharma Deutschland GmbH

<120> Dual-transfected cell lines as in vitro screening tools for pharmaceutical compound profiling: A model for hepatobiliary elimination.

<130> DEAV 2004/0025

<160> 6

<170> PatentIn version 3.2

<210> 1

<211> 1061

<212> DNA

<213> Homo sapiens

<400> 1	60
caggaggatg gaggcccaca acgcgtctgc cccattcaac ttcaccctgc caccctaactt	60
tggcaagcgc cccacagacc tggcaactgag cgtcatcctg gtgttcatgt tgtttctcat	120
catgctctcg ctgggctgca ccatggagtt cagcaagatc aaggctcaat tatggaagcc	180
taaagggctg gccatcgccc tggtggcaca gtatggcatc atgcccctca cggcctttgt	240
gctgggcaag gtcttccggc tgaagaacat tgaggcaactg gccatcttgg tctgtggctg	300
ctcaccttggaa gggAACCTGT ccaatgtctt cagtcggcc atgaagggggg acatgaacat	360
cagcattgtg atgaccacat gctccacattt ctgtccctt ggcacatgtgc ctccctccct	420
gtacatctac tccagggggta tctatgtatgg ggacctgtgg gacaagggtgc cctataaagg	480
catcgtgata tcactggtcc tggttctcat tccttgcacc atagggatcg tcctcaaatac	540
taaacggcca caatacatgc gctatgtcat caagggaggg atgatcatca ttcttgcatt	600
cagtgtggcc gtcacagtgc tctctggccat caatgtgggg aagagcatca tgtttgcatt	660
gacaccactc ttgattgcca cttccctccct gatgccttct attggcttgc tgctgggtta	720
tgttctctct gctctttctt gcctcaatgg acgggtgcaga cgcactgtca gcatggagac	780
tggatgccaa aatgtccaaac tctgttccac catcctcaat gtggccttgc cacctgaagt	840
cattggacca cttttcttctt ttccctccctt ctacatgatt ttccagcttg gagaagggt	900
tctccctcatt gccatatttt ggtgttatga gaaattcaag actcccaagg ataaaaacaaa	960
aatgatctac acagctgcca caactgaaga aacaattcca ggagctctgg gaaatggcac	1020
ctacaaaaggg gaggactgtt ccccttgcac agcctagcccc t	1061

<210> 2

<211> 3966

<212> DNA

<213> Homo sapiens

<400> 2	60
atgtctgact cagtaattct tcgaagtata aagaaatttg gagaggagaa tggatggtttt	60
gagtcagata aatcatataa taatgataag aaatcaaggt tacaagatga gaagaaaggt	120
gatggcgtta gagttggctt ctttcaattt tttcggtttt cttcatcaac tgacatttgg	180

DEAV2004-0025.txt

ctgatgtttg tggaaagttt gtgtgcattt ctccatggaa tagcccagcc aggcgtgcta 240
ctcattttg gcacaatgac agatgtttt attgactacg acgttgagtt acaagaactc 300
cagattccag gaaaagcatg tgtgaataac accattgtat ggactaacag ttccctcaac 360
cagaacatga caaatggAAC acgttgtggg ttgctgaaca tcgagagcga aatgatcaa 420
tttgcagtt actatgctgg aattgctgtc gcagttactta tcacaggata tattcaaata 480
tgctttggg tcattgcccgc agctcgtagt atacagaaaa tgagaaaaatt ttactttagg 540
agaataatga gaatggaaat agggtggTTT gactgcaatt cagtggggga gctgaataca 600
agattctctg atgatattaa taaaatcaat gatgccatag ctgaccaaat ggccttttc 660
attcagcgca tgacctcgac catctgtggt ttccctgtgg gatttttcag gggttggaaa 720
ctgaccttgg ttattatttc tgtcagccct ctcattggaa ttggagcagc caccattgg 780
ctgagtggtgt ccaagtttac ggactatgag ctgaaggcct atgccaaagc aggggtgg 840
gctgtatgtatgcatc aatgagaaca gtggctgctt ttgggtgtga gaaaagagag 900
gttgaaaggt atgagaaaaaa tcttgtgttc gcccagcgtt gggaaattag aaaaggaata 960
gtgatggat tctttactgg attcgtgtgg tgtctcatct ttttgtgtta tgcactggcc 1020
ttctggtacg gctccacact tgtcctggat gaaggagaat atacaccagg aacccttgc 1080
cagattttcc tcagtgtcat agtaggagct ttaaatcttgc gcaatgcctc tccttgg 1140
gaagcccttgc caactggacg tgccggcacc accagcattt ttgagacaat agacaggaaa 1200
cccatcatttgc actgcattgtc agaagatggt tacaagttgg atcgaatcaa gggtaaatt 1260
gaattccata atgtgacctt ccattatcct tccagaccag aggtgaagat tctaaatgac 1320
ctcaacatgg ccattaaacc agggaaatg acagctctgg taggaccag tggagctgga 1380
aaaagtacag cactgcaact cattcagcga ttctatgacc cctgtgaagg aatggtgacc 1440
gtggatggcc atgacattcg ctctcttaac attcagtggc ttagagatca gattggata 1500
gtggagcaag agccagttct gttcttacc accattgcag aaaatattcg ctatggcaga 1560
gaagatgcaaa caatggaaaga catagccaa gctgccaagg aggccaatgc ctacaacttc 1620
atcatggacc tgccacagca atttgcacacc cttgttggag aaggaggagg ccagatgagt 1680
ggtggccaga aacaaagggt agctatgcggc agagccctca tccggaaatcc caagattctg 1740
cttttggaca tggccacccctc agctctggac aatgagagtg aagccatggt gcaagaagt 1800
ctgagtaaga ttccagcatgg gcacacaatc atttcagtttgc tctatcgctt gtctacggc 1860
agagctgcag ataccatcat tggtttgaa catggcactg cagtgaaag agggacccat 1920
gaagaattac tggaaaggaa aggtgtttac ttccactctag tgactttgca aagccaggaa 1980
aatcaagctc ttaatgaaga ggacataaag gatgcaactg aagatgacat gtttgcagg 2040
accttttagca gagggagcta ccaggatagt ttaaggcgtt ccatccggca acgctccaag 2100
tctcagctt cttacctggt gcacgaacct ccattagctg ttgttagatca taagtctacc 2160
tatgaagaag atagaaaggaa caaggacatt cctgtgcagg aagaagttga acctgccccca 2220

DEAV2004-0025.txt

gttaggagga	ttctgaaatt	cagtgctcca	aatggccct	acatgctgg	agggtctgt	2280
ggtcagctg	tgaacgggac	agtacacaccc	ttgtatgcct	ttttatttcag	ccagattctt	2340
gggactttt	caattcctga	taaagagggaa	caaaggtcac	agatcaatgg	tgtgtgccta	2400
ctttttag	caatgggctg	tgtatctctt	ttcacccaat	ttctacaggg	atatgccttt	2460
gctaaatctg	gggagctcct	aacaaaaagg	ctacgtaaat	ttggtttcag	ggcaatgctg	2520
gggcaagata	ttgcctgggt	tgtgacctc	agaaatagcc	ctggagcatt	gacaacaaga	2580
cttgctacag	atgctccca	agttcaaggg	gctgccggct	ctcagatcgg	gatgatagtc	2640
aattccttca	ctaacgtcac	tgtggccatg	atcattgcct	tctcctttag	ctggaaagctg	2700
agcctggtca	tcttgcgtt	cttccccttc	ttggctttat	caggagccac	acagaccagg	2760
atgttgcacag	gatttgcctc	tcgagataag	cagggccctgg	agatgggtgg	acagattaca	2820
aatgaagccc	tcaagtaacat	ccgcactgtt	gctggaattt	gaaaggagag	gcggttcatt	2880
gaagcacttg	agactgagct	ggagaagccc	ttcaagacag	ccattcagaa	agccaatatt	2940
tacggattct	gctttgcctt	tgcccagtgc	atcatgttt	ttgcgaattc	tgcttcctac	3000
agatatggag	gttacttaat	ctccaatgag	gggctccatt	tcaagttatgt	gttcagggtg	3060
atctctgcag	ttgtactgag	tgcaacagct	cttggaaagag	ccttctctta	caccccaagt	3120
tatgcaaaag	ctaaaatatc	agctgcacgc	tttttcaac	tgctggaccg	acaacccca	3180
atcagtgtat	acaatactgc	aggtgaaaaaa	tgggacaact	tccaggggaa	gattgatttt	3240
gttgattgta	aatttacata	tccttctcga	cctgactcgc	aagttctgaa	tggtctctca	3300
gtgtcgattt	gtccagggca	gacactggcg	tttggggaa	gcagtggatg	tggcaaaagc	3360
actagcattc	agctgttgg	acgtttctat	gatcctgatc	aagggaaaggt	gatgatagat	3420
ggtcatgaca	gcaaaaaagt	aatgtccag	ttcctccgct	caaacattgg	aattgtttcc	3480
caggaaccag	tgttgcgtt	ctgttagata	atggacaata	tcaagttatgg	agacaacacc	3540
aaagaaaattc	ccatggaaag	agtcatagca	gctgaaaaac	aggctcagct	gcatgatttt	3600
gtcatgtcac	tcccagagaa	atatgaaact	aacgttgggt	cccaggggtc	tcaactctct	3660
agaggggaga	aacaacgcac	tgctattgct	cggccattt	tacgagatcc	taaaatctt	3720
ctactagatg	aagccacttc	tgcccttagac	acagaaaagt	aaaagacggt	gcaggttgct	3780
ctagacaaag	ccagagaggg	tcggacctgc	attgtcattt	ccatcgctt	gtccaccatc	3840
cagaacgcgg	atatcattgc	tgtcatggca	caggggggtgg	tgattgaaaa	ggggacccat	3900
gaagaactga	tggccaaaaa	aggagctac	tacaaactag	tcaccactgg	atccccatc	3960
agttga						3966

<210> 3
 <211> 4650
 <212> DNA
 <213> Homo sapiens
 <400> 3

DEAV2004-0025.txt

agtccaggaa tcatgctgga gaagttctgc aactctactt tttggaattc ctcattcctg	60
gacagtccgg aggcagacct gccactttgt tttgagcaaa ctgttctggt gtggattccc	120
ttgggcttcc tatggctcct ggccccctgg cagctctcc acgtgtataa atccaggacc	180
aagagatcct ctaccaccaa actctatctt gctaagcagg tattcgttgg ttttcttctt	240
attctagcag ccatagagct ggcccttgtt ctcacagaag actctggaca agccacagtc	300
cctgctgttc gatataccaa tccaagcctc tacctaggca catggctcct ggtttgctg	360
atccaataca gcagacaatg gtgtgtacag aaaaactcct gtttcctgtc cctattctgg	420
attctctcga tactctgtgg cactttccaa tttcagactc tgatccggac actcttacag	480
ggtgacaatt ctaatctagc ctactcctgc ctgttcttca tctcctacgg attccagatc	540
ctgatcctga tcttttcagc attttcagaa aataatgagt catcaaataa tccatcatcc	600
atagcttcat tcctgagtag cattacctac agctggatag acagcatcat tctgaaaggc	660
tacaagcgtc ctctgacact cgaggatgtc tgggaagttt atgaagagat gaaaaccaag	720
acattagtga gcaagtttga aacgcacatg aagagagagc tgcagaaagc caggcgggca	780
ctccagagac ggcaggagaa gagctcccag cagaactctg gagccaggct gcctggctt	840
aacaagaatc agagtcaaag ccaagatgcc cttgtcctgg aagatgttga aaagaaaaaa	900
aagaagtctg ggacaaaaaa agatgttcca aaatcctggt tgatgaaggc tctgttcaaa	960
actttctaca tggtgcctt gaaatcattc ctactgaagc tagtgaatga catcttcacg	1020
tttgtgagtc ctcagctgct gaaattgctg atctccttgc caagtgaccc tgacacatata	1080
tttgtggattt gatatctctg tgcaatcctc ttattcaact cggctctcat tcagtcttc	1140
tgccttcagt gttatttcca actgtgcttc aagctgggtg taaaagtacg gacagctatc	1200
atggcttctg tatataagaa ggcattgacc ctatccaact tggccaggaa ggagtagacc	1260
gttggagaaa cagtgaacct gatgtctgt gatgcccaga agctcatgga tgtgaccaac	1320
ttcatgcaca tgctgtggc aagtgttcta cagattgtct tatctatctt cttcctatgg	1380
agagagttgg gaccctcagt cttagcagggt gttgggggtga tggtgctt aatcccaatt	1440
aatgcgatac tgtccaccaa gagtaagacc attcaggtca aaaatatgaa gaataaaagac	1500
aaacgtttaa agatcatgaa tgagattctt agtggaatca agatcctgaa atatttgcc	1560
tgggaacctt cattcagaga ccaagtacaa aaccccgga agaaagagct caagaacctg	1620
ctggccctta gtcaactaca gtgtgttagta atattcgctc tccagttAAC tccagtcctg	1680
gtatctgtgg tcacattttc tttttatgtc ctggggata gcaacaatat tttggatgca	1740
caaaaaggccct tcacccat taccctcttc aatatcctgc gctttccct gagcatgctt	1800
cccatgatga tctccat gctccaggcc agtgtttcca cagagcggct agagaagtac	1860
ttggggagggg atgacttggc cacatctgcc attcgacatg actgcaattt tgacaaagcc	1920
atgcagtttt ctgaggcctc ctttacctgg gaacatgatt cggaagccac agtccgagat	1980
gtgaacctgg acattatggc aggccaaactt gtggctgtga taggcccgtt cggctctggg	2040

DEAV2004-0025.txt

aaatcctcct	tgatatcagc	catgctggga	gaaatggaaa	atgtccacgg	gcacatcacc	2100
atcaaggca	ccactgccta	tgtcccacag	cagtcctgga	ttcagaatgg	caccataaag	2160
gacaacatcc	tttttggAAC	agagTTTaaT	gaaaAGAGGT	accAGCAAGT	actGGAGGCC	2220
tgtgctctcc	tcccagactt	ggaatgctg	cctggaggag	atTTggCTGA	gattggagag	2280
aagggtataa	atcttagtgg	gggtcagaag	cagcggatca	gcctggccag	agctacctac	2340
caaaaATTTAG	acatctatct	tctagatgac	cccctgtctg	cagtggatgc	tcatgttagga	2400
aaacatatTTT	ttaataaggt	cttggggcccc	aatggcctgt	tgaaaggcaa	gactcgactc	2460
ttggttacac	atagcatgca	ctttcttcct	caagtggatg	agattgtagt	tctgggaat	2520
ggaacaatttG	tagagaaagg	atcctacagt	gctctctgg	ccaaaaaaagg	agagTTTgct	2580
aagaatctga	agacatttct	aagacataca	ggccctgaag	aggaagccac	agtccatgat	2640
ggcagtgaag	aagaagacga	tgactatggg	ctgatatcca	gtgtggaaaga	gatccccgaa	2700
gatgcagcct	ccataaccat	gagaagagag	aacagcttcc	gtcgaacact	tagccgcagt	2760
tctaggtcca	atggcaggca	tctgaagtcc	ctgagaaact	ccttgaaaac	tcggaatgtg	2820
aatagcctga	aggaagacga	agaactagtg	aaaggacaaa	aactaattaa	gaaggaattc	2880
atagaaactg	gaaaggtgaa	gttctccatc	tacctggagt	acctacaagc	aataggattg	2940
ttttcgatAT	tcttcatcat	ccttgcgttt	gtgatgaatt	ctgtggctt	tattggatcc	3000
aacctctggc	tcagtcttg	gaccagtgc	tctaaatct	tcaatagcac	cgactatcca	3060
gcatctcaga	gggacatgag	agttggagtc	tacggagctc	tgggattagc	ccaaggtata	3120
tttgtgttca	tagcacattt	ctggagtgcc	tttggtttgc	tccatgcac	aaatatcttg	3180
cacaagcaac	tgctgaacaa	tatccttcga	gcacctatga	gatTTTTGA	cacaacaccc	3240
acaggccgga	ttgtgaacag	gttgccggc	gatatttcca	cagtggatga	caccctgcct	3300
cagtccttgc	gcagctggat	tacatgcttc	ctggggataa	tcagcaccc	tgtcatgatc	3360
tgcattggcca	ctcctgtctt	caccatcatc	gtcattcctc	ttggcattat	ttatgtatct	3420
gttcagatgt	tttatgtgtc	tacctccgc	cagctgaggc	gtctggactc	tgtcaccagg	3480
tccccaatct	actctcactt	cagcgagacc	gtatcaggTT	tgccagTTT	ccgtgcctt	3540
gagcaccagc	agcgatttct	gaaacacaat	gaggtgagga	ttgacaccaa	ccagaaatgt	3600
gtcttttcct	ggatcacctc	caacaggtgg	cttgcaattc	gcctggagct	ggttgggaac	3660
ctgactgtct	tcttttcagc	tttgatgatg	gttatttata	gagataccct	aagtggggac	3720
actgttggct	ttgttctgtc	caatgcactc	aatatcacac	aaaccctgaa	ctggctgggt	3780
aggatgacat	cagaaataga	gaccaacatt	gtggctgttg	agcgaataac	tgagtacaca	3840
aaagtggaaa	atgaggcacc	ctgggtgact	gataagaggc	ctccgccaga	ttggcccagc	3900
aaaggcaaga	tccagTTAA	caactaccaa	gtcggttacc	gacctgagct	ggatctggtc	3960
ctcagaggga	tcacttgcga	cattggtagc	atggagaaga	ttgggtgtgt	ggcaggaca	4020
ggagctggaa	agtcatccct	cacaaactgc	ctttcagaa	tcttagaggc	tgccgggtgg	4080

DEAV2004-0025.txt

cagattatca	ttgatggagt	agatattgct	tccattggc	tccacgacct	ccgagagaag	4140
ctgaccatca	tcccccagga	ccccatcctg	ttctctggaa	gcctgaggat	aatctcgac	4200
ccttcaaca	actactcaga	tgaggagatt	tggaaggcct	tggagctggc	tcacacctaa	4260
tctttgtgg	ccagcctgca	acttgggtta	tcccacgaag	tgacagaggc	tggtggcaac	4320
ctgagcatag	gccagaggca	gctgctgtgc	ctggcaggg	ctctgcttcg	gaaatccaag	4380
atcctggtcc	tggatgaggc	cactgctgcg	gtggatctag	agacagacaa	cctcattcag	4440
acgaccatcc	aaaacgagtt	cgcactgc	acagtatca	ccatcgccca	caggctgcac	4500
accatcatgg	acagtgacaa	gtaatggtc	ctagacaacg	ggaagattat	agagtgcggc	4560
agccctgaag	aactgctaca	aatccctgga	ccctttact	ttatggctaa	ggaagctggc	4620
attgagaatg	tgaacagcac	aaaattctag				4650

<210> 4

<211> 6433

<212> DNA

<213> Artificial Sequence

<220>

<223> Plasmid

<400> 4

gacggatcgg	gagatctccc	gatcccstat	gggcactct	cagtacaatc	tgctctgatg	60
ccgcatacgat	aagccagtat	ctgctccctg	cttgcgtgtt	ggaggtcgct	gagtagtgcg	120
cgagcaaaat	ttaagctaca	acaaggcaag	gcttgaccga	caattgcatt	aagaatctgc	180
ttagggtag	gcgtttgcg	ctgcttcgcg	atgtacgggc	cagatatacg	cggtgacatt	240
gattattgac	tagttattaa	tagtaatcaa	ttacggggtc	attagttcat	agccatata	300
tggagttccg	cgttacataa	cttacggtaa	atggcccgcc	tggctgaccg	cccaacgacc	360
ccgcatt	gacgtcaata	atgacgtatg	ttcccatagt	aacgccaata	gggactttcc	420
attgacgtca	atgggtggag	tatgtacgtt	aaactgccc	cttggcagta	catcaagtgt	480
atcatatgcc	aagtacgccc	cctattgacg	tcaatgacgg	taaatggccc	gcctggcatt	540
atgcccagta	catgaccta	tgggactttc	ctacttggca	gtacatctac	gtattagtca	600
tcgcttattac	catggtgatg	cggtttggc	agtacatcaa	tggcgtgga	tagcggttg	660
actcacgggg	atttccaagt	ctccacccca	ttgacgtcaa	tgggagtttgc	ttttggcacc	720
aaaatcaacg	ggactttcca	aatgtcgta	acaactccgc	cccattgacg	caaatggcgc	780
gtaggcgtgt	acgggtggag	gtctatataa	gcagagctct	ctggcttaact	agagaaccca	840
ctgcttactg	gcttatcgaa	attaatacga	ctcactatag	ggagacccaa	gctggcttagc	900
gtttaaactt	aagcttggta	ccgagctcg	atcccaggag	gatggaggcc	cacaacgcgt	960
ctgccccatt	caacttcacc	ctgccacccaa	actttggca	gcgcacca	gaccgtggcac	1020
tgagcgtcat	cctgggttcc	atgttggct	tcatcatgct	ctcgctggc	tgcaccatgg	1080
agttcagcaa	gatcaaggct	cacttatgga	agcctaaagg	gctggccatc	gccctggcgg	1140

DEAV2004-0025.txt

cacagtatgg	catcatgccc	ctcacggcct	ttgtgctggg	caaggcttc	cggtgaaga	1200
acattgagggc	actggccatc	ttggctgtg	gctgctcacc	tggagggaac	ctgtccaatg	1260
tcttcagtct	ggccatgaag	ggggacatga	acctcagcat	tgtgatgacc	acctgctcca	1320
ccttctgtgc	ccttggcatg	atgcctctcc	tcctgtacat	ctactccagg	gggatctatg	1380
atggggacct	gaaggacaag	gtgcctata	aaggcatgt	gatatcactg	gtcctggttc	1440
tcattccttg	caccataggg	atcgctctca	aatctaaacg	gccacaatac	atgcgtatg	1500
tcatcaaggg	agggatgatc	atcattctct	tgtgcagtgt	ggccgtcaca	gttctctctg	1560
ccatcaatgt	gggaaagagc	atcatgtttg	ccatgacacc	actctgatt	gccacccct	1620
ccctgatgcc	ttctattggc	tttctgctgg	gttatgttct	ctctgctctc	ttctgcctca	1680
atggacggtg	cagacgcact	gtcagcatgg	agactggatg	ccaaaatgtc	caactctgtt	1740
ccaccatcct	caatgtggcc	tttccacctg	aagtcattgg	accactttc	ttctttcccc	1800
tcctctacat	gattttccag	tttggagaag	ggcttctcct	cattgccata	ttttggtgct	1860
atgagaaatt	caagactccc	aaggataaaa	ccaaaatgtat	ctacacagct	gccacaactg	1920
aagaaacaat	tccaggagct	ctggaaatg	gcacccatcaa	aggggaggac	tgctccctt	1980
gcacagccta	gcccttctag	agggcccgtt	taaaccgct	gatcagcctc	gactgtgcct	2040
tctagttgcc	agccatctgt	tgtttgcctt	tcccccgtgc	cttccttgac	cctggaaggt	2100
gccactccca	ctgtcctttc	ctaataaaat	gaggaaattg	catgcatttgc	tctgagtagg	2160
tgtcattcta	ttctgggggg	tgggtgggg	caggacagca	agggggagga	ttgggaagac	2220
aatagcagggc	atgctgggga	tgcggtgggc	tctatggctt	ctgaggcgga	aagaaccagc	2280
tggggctcta	gggggtatcc	ccacgcgccc	tgtagcgccg	cattaagcgc	ggcgggtgtg	2340
gtggttacgc	gcagcgtgac	cgctacactt	gccagcgc	tagcgc	cccttcgct	2400
ttcttcctt	ccttctcgc	cacgttgc	ggcttccccc	gtcaagctct	aaatcggggg	2460
ctccctttag	ggttccgatt	tagtgcttta	cggcacctcg	accccaaaaa	acttgattag	2520
ggtgatgggt	cacgttgtgg	gccatgc	tgtatagacgg	ttttcgc	tttgacgtt	2580
gagtccacgt	tcttaatag	tggactcttgc	ttccaaactg	gaacaacact	caaccctatc	2640
tcggtctatt	ttttgattt	ataagggatt	ttgccgattt	cggctatttgc	gttaaaaaat	2700
gagctgattt	aacaaaatt	taacgcgaat	taattctgtg	aatgtgtgt	cagttagggt	2760
gtggaaagtc	cccaggctcc	ccagcaggca	gaagtatgca	aagcatgcat	ctcaatttgc	2820
cagcaaccag	gtgtggaaag	tccccaggct	ccccagcagg	cagaagtatg	caaagcatgc	2880
atctcaatta	gtcagcaacc	atagtcccgc	ccctaactcc	gcccatccc	cccctaactc	2940
cggccagttc	cggccattct	ccgccccatg	gctgactaat	tttttttatt	tatgcagagg	3000
ccgaggccgc	ctctgcctct	gagctattcc	agaagtagtg	aggaggctt	tttggaggcc	3060
taggcttttgc	caaaaaagctc	ccgggagctt	gtatatccat	tttcggatct	gatcaagaga	3120
caggatgagg	atcgtttcgc	atgattgaac	aagatggatt	gcacgcaggt	tctccggccg	3180

DEAV2004-0025.txt

cttgggtgga gaggctattc ggctatgact gggcacaaca gacaatcgac	3240
ccggcgtgtt ccggctgtca gcgcaggggc gcccgttct ttttgtcaag accgacctgt	3300
ccgggtccct gaatgaactg caggacgagg cagcgcggct atcgtggctg gccacgacgg	3360
gcgttccttgcgcagctgtgtc tcgacgttg tcactgaagc gggaaaggac tggctgctat	3420
tgggcgaagt gcccggcag gatctcctgt catctcacct tgctcctgcc gagaaagtat	3480
ccatcatggc tgatgcaatg cggcggctgc atacgcttga tccggctacc tgcccatcg	3540
accaccaagc gaaacatcgatc acgagcggag cacgtactcg gatggaaagcc ggtcttgc	3600
atcaggatga tctggacgaa gagcatcagg ggctcgcc agccgaactg ttcgccaggc	3660
tcaaggcgcg catgcccgc ggcgaggatc tcgtcgac ccatggcgat gcctgcttgc	3720
cgaatatcat ggtggaaaat ggccgctttt ctggattcat cgactgtggc cggctgggtg	3780
tggcggaccg ctatcaggac atagcgttgg ctaccgtga tattgctgaa gagcttggcg	3840
gcgaatgggc tgaccgcttc ctcgtctttt acggatcgatc cgctcccgat tcgcagcgca	3900
tcgccttcta tcgccttctt gacgagttct tctgagcggg actctgggt tcgaaatgac	3960
cgaccaagcg acgccccacc tgccatcactg agatttcgat tccaccgccc cttctatga	4020
aagggtgggc ttcggaaatcg tttccggga cgccggctgg atgatcctcc agcgcgggaa	4080
tctcatgctg gagttttcg cccacccaa cttgtttatt gcagcttata atggttacaa	4140
ataaaagcaat agcatcacaa atttcacaaa taaagcattt ttttactgc attctagttt	4200
tggtttgccttcc aaactcatca atgtatctta tcatgtctgt ataccgtcgat cctctagcta	4260
gagcttggcg taatcatggt catagctgtt tcctgtgtga aattgttata cgctcacaat	4320
tccacacaaac atacgagccg gaagcataaa gtgtaaagcc tgggggtgcct aatgagttag	4380
ctaactcaca ttaattgcgt tgcgctact gcccgtttc cagtcgggaa acctgtcg	4440
ccagctgcataatgaatcg gccaacgcgc ggggagaggc gtttgcgtt ttggcgctc	4500
ttccgcttcc tcgctcactg actcgctgcg ctcggcgat cggctgcggc gagcggatc	4560
agctcactca aaggcggtaa tacggttatc cacagaatca gggataacg cagggaaagaa	4620
catgtgagca aaaggccagc aaaaggccag gaaccgtaaa aaggccgcgt tgctggcg	4680
tttccatagg ctccggcccc ctgacgagca tcacaaaaat cgacgctcaa gtcagaggtg	4740
gcgaaaccccg acaggactat aaagatacca ggcgtttccc cctggaaagct ccctgtcg	4800
ctctcctgtt ccgaccctgc cgcttaccgg ataccgttcc gccttctcc cttcggaaag	4860
cgtggcgctt tctcatagct cacgctgttagt gtatctcagt tcgggtttagg tcgttcgtc	4920
caagctgggc tgtgtgcacg aaccccccgt tcagccgcac cgctgcgcct tatccggtaa	4980
ctatcgctt gagtccaacc cggtaagaca cgacttacgt ccactggcag cagccactgg	5040
taacaggatt agcagagcga ggtatgttagg cggtgctaca gagtttttga agtgggtggcc	5100
taactacggc tacactagaa gaacagtatt tggtatctgc gctctgttga agccagttac	5160
cttcggaaaaa agagttggta gctcttgc gggcaaaacaa accaccgttgc gtagcggttt	5220

DEAV2004-0025.txt

ttttgtttgc aagcagcaga ttacgcgcag	aaaaaaaagga tctcaagaag atcctttcat	5280
cttttctacg gggctgtacg ctcagtggaa	cgaaaactca cgttaaggga ttttggcat	5340
gagattatca aaaaggatct tcacctagat	ccttttaaat taaaaatgaa gttttaaattc	5400
aatctaaagt atatatgagt aaacttggc	tgacagttac caatgctta tcagtgaggc	5460
acctatctca gcgatctgtc tatttcgttc	atccatagtt gcctgactcc ccgtcgtgta	5520
gataactacg atacgggagg gcttaccatc	tggccccagt gctgcaatga taccgcgaga	5580
cccacgctca cccgctccag atttatcagc	aataaaccag ccagccggaa gggccgagcg	5640
cagaagtggt cctgcaactt tatccgcctc	catccagtct attaattgtt gccgggaagc	5700
tagagtaagt agttcgccag ttaatagtt	gcgcaacgtt gttgccattt ctacaggcat	5760
cgtggtgtca cgctcgctgt ttggtatggc	ttcattcagc tccggttccc aacgatcaag	5820
gcgagttaca tgcattccca tgggtgtcaa	aaaagcggtt agctccttcg gtcctccgat	5880
cgttgcaga agtaagttgg ccgcagtgtt	atcaactcatg gttatggcag cactgcataa	5940
ttctcttact gtcatgccat ccgtaaagatg	cttttctgtg actggtgagt actcaaccaa	6000
gtcattctga gaatagtgtt tgcggcgacc	gagttgctct tgcccgccgt caatacgggaa	6060
taataccgcg ccacatagca gaactttaaa	agtgcctatc attggaaaac gttcttcggg	6120
gcgaaaactc tcaaggatct taccgctgtt	gagatccagt tcgatgtaac ccactcgatc	6180
acccaactga tcttcagcat cttttacttt	caccagcgat tctgggtgag caaaaacagg	6240
aaggcaaaat gccgcaaaaa agggaataag	ggcgacacgg aaatgttcaa tactcatact	6300
cttccttttt caatattatt gaagcattt	tcagggttat tgtctcatga gcggatacat	6360
atttgaatgt atttagaaaa ataaacaaat	aggggttccg cgcacatttc cccgaaaagt	6420
gccacctgac gtc		6433

<210> 5
<211> 9043
<212> DNA
<213> Artificial Sequence

<220>
<223> Plasmid

<400> 5
gacggatcgg gagatctccc gatcccctat ggtcgactct cagtacaatc tgctctgatg

ccgcatagtt aagccagtat ctgctccctg	cttgggtgttt ggaggtcgct gagtagtgcg	60
cgagcaaaat ttaagctaca acaaggcaag	gcttgaccga caattgcatt aagaatctgc	120
ttagggtagt gcttttgcg ctgcttcgcg	atgtacgggc cagatatacg cggtgacatt	180
gattattgac tagttattaa tagtaatcaa	ttacggggtc attagttcat agcccatata	240
tggagttccg cgttacataa cttacggtaa	atggcccgcc tggctgaccg cccaaacgacc	300
cccgccccatt gacgtcaata atgacgtatg	ttcccatagt aacgccaata gggactttcc	360
attgacgtca atgggtggac tatttacggt	aaactgcccc cttggcagta catcaagtgt	420
		480

DEAV2004-0025.txt

atcatatgcc	aagtacgccc	cctattgacg	tcaatgacgg	taaatggccc	gcctggcatt	540
atgcccagta	catgaccccta	tgggactttc	ctacttggca	gtacatctac	gtattagtca	600
tcgccttac	catggtgatg	cggtttggc	agtacatcaa	tgggctgga	tagcggttg	660
actcacgggg	atttccaagt	ctccacccca	ttgacgtcaa	tggagttt	tttggcacc	720
aaaatcaacg	ggactttcca	aatgtcgta	acaactccgc	cccattgacg	caaatggcg	780
gtaggcgtgt	acggtggag	gtctatataa	gcagagctct	ctggctaact	agagaaccca	840
ctgcttactg	gcttatcgaa	attaatacga	ctcactatag	ggagacccaa	gctggctagc	900
gtttaaactt	aagctatcac	aagtttgtac	aaaaaagcag	gcttaggaat	gtctgactca	960
gtaattcttc	gaagtataaa	gaaatttgg	gaggagaatg	atggtttga	gtcagataaa	1020
tcatataata	atgataagaa	atcaaggta	caagatgaga	agaaaggtga	tggcgttaga	1080
gttggcttct	ttcaattgtt	tcggtttct	tcatcaactg	acatttgct	gatgtttgt	1140
ggaagttgt	gtgcatttct	ccatggaata	gcccagccag	gcgtgctact	cattttggc	1200
acaatgacag	atgttttat	tgactacgac	gttgagttac	aagaactcca	gattccagga	1260
aaagcatgtg	tgaataaacac	cattgtatgg	actaacagtt	ccctcaacca	gaacatgaca	1320
aatggaacac	gttgtgggtt	gctgaacatc	gagagcggaa	tgatcaaatt	tgccagttac	1380
tatgctggaa	ttgctgtcgc	agtacttac	acaggatata	ttcaaataatg	ctttgggtc	1440
attgccgcag	ctcgtcagat	acagaaaatg	agaaaatttt	actttaggag	aataatgaga	1500
atggaaatag	ggtggtttga	ctgcaattca	gtggggagc	tgaataacaag	attctctgat	1560
gatattaata	aaatcaatga	tgccatagct	gaccaaattgg	ccctttcat	tcagcgcatt	1620
acctcgacca	tctgtggttt	cctgtggga	ttttcaggg	gttggaaact	gaccttgggtt	1680
attatttctg	tcagccctct	cattggatt	ggagcagcca	ccattggct	gagtgtgtcc	1740
aagtttacgg	actatgagct	gaaggcctat	gccaaagcag	gggtggtggc	tgatgaagtc	1800
atttcatcaa	tgagaacagt	ggctgctttt	ggtggtgaga	aaagagaggt	tgaaaggat	1860
gagaaaaatc	ttgtgttcgc	ccagcgttgg	ggaattagaa	aaggaatagt	gatgggattc	1920
tttactggat	tcgtgtggtg	tctcatctt	ttgtgttatg	cactggcctt	ctggtacggc	1980
tccacacttg	tcctggatga	aggagaatat	acaccaggaa	cccttgcac	gattttcctc	2040
agtgtcatag	taggagcttt	aaatcttggc	aatgcctctc	cttggtttgg	agcctttgca	2100
actggacgtg	cagcagccac	cagcattttt	gagacaatag	acaggaaacc	catcattgac	2160
tgcatgtcag	aagatggta	caagttggat	cgaatcaagg	gtgaaattga	attccataat	2220
gtgacccctcc	attatcccttc	cagaccagag	gtgaagattc	taaatgaccc	caacatggcc	2280
attaaaccag	gggaaatgac	agctctggta	ggacccagt	gagctggaaa	aagtacagca	2340
ctgcaactca	ttcagcgatt	ctatgacccca	tgtgaaggaa	tggtgaccgt	ggatggccat	2400
gacattcgct	ctcttaacat	tcagtggctt	agagatcaga	ttgggatagt	ggagcaagag	2460
ccagttctgt	tctctaccac	cattgcagaa	aatattcgct	atggcagaga	agatgcaaca	2520

DEAV2004-0025.txt

atggaaagaca tagtccaagg tgccaaggag gccaatgcct acaaacttcat catggacctg 2580
ccacagcaat ttgacaccct tggggagaa ggaggaggcc agatgagtgg tggccagaaa 2640
caaaggtag ctatcgccag agccctcatc cgaaatccca agattctgct tttggacatg 2700
gccacctcag ctctggacaa tgagagtcaa gccatggtgc aagaagtgc gagtaagatt 2760
cagcatggc acacaatcat ttcagttgc catcgcttgc ctacggcag agctgcagat 2820
accatcattg gtttgaaca tggcaactgca gtggaaagag ggaccatga agaattactg 2880
gaaagggaaag gtgttactt cactctagtg actttgcaaa gccaggaaa tcaagcttt 2940
aatgaagagg acataaagga tgcaactgaa gatgacatgc ttgcaggac ctttagcaga 3000
gggagctacc aggatagttt aagggttcc atccggcaac gctccaagtc tcagcttt 3060
tacctggtgc acgaacctcc attagctgtt gtagatcata agtctaccta tgaagaagat 3120
agaaaggaca aggacattcc tgcaggaa gaagttgaac ctgccccagt taggaggatt 3180
ctgaaattca gtgctccaga atggccctac atgctggtag ggtctgtgg tgcagctgt 3240
aacgggacag tcacaccctt gtatgccttt ttattcagcc agattctgg gacttttca 3300
attcctgata aagaggaaca aaggtcacag atcaatggtg tgcctact tttgttagca 3360
atgggctgtg tatctttt caccatattt ctacagggat atgccttgc taaatctgg 3420
gagctcctaa caaaaaggct acgtaaattt gtttcaggg caatgctgg gcaagatatt 3480
gcctggttt atgacctcg aaatagccct ggagcattga caacaagact tgctacagat 3540
gcttcccaag ttcaagggc tgccggctct cagatcggga tgatagtcaa ttccttact 3600
aacgtcactg tggccatgat cattgccttc tcctttagct ggaagctgag cctggctatc 3660
ttgtgcttct tcccccttctt ggctttatca ggagccacac agaccaggat gttgacagga 3720
tttgcctctc gagataagca ggccctggag atggtggac agattacaaa tgaagccctc 3780
agtaacatcc gcactgttgc tggaaattgga aaggagaggc gttcattga agcacttgag 3840
actgagctgg agaagccctt caagacagcc attcagaaag ccaatattta cggttctgc 3900
tttgccttttgc cccagtgcat catgttattt gcaattctg cttcctacag atatggaggt 3960
tacttaatct ccaatgaggg gctccatttc agctatgtgt tcagggtat ctctgcagtt 4020
gtactgagtg caacagctct tggaaagagcc ttctcttaca ccccaagtt tgcaaaaagct 4080
aaaatatccatcg ctgcacgctt tttcaactg ctggaccgac aacccccaat cagtgtatac 4140
aatactgcag gtgaaaaatg ggacaacttc caggggaaga ttgatTTTGT tgattgtaaa 4200
tttacatatc cttctcgacc tgactcgcaa gttctgaatg gtctctcagt gtcgattagt 4260
ccagggcaga cactggcggtt tggggagc agtggatgtg gcaaaagcac tagcattcag 4320
ctgttggaaac gtttctatga tcctgatcaa gggaaaggta tgatagatgg tcatgacagc 4380
aaaaaaagtaa atgtccagtt cctccgctca aacattggaa ttgtttccca ggaaccagtg 4440
ttgtttgcct gtagcataat ggacaatatc aagtatggag acaacaccaa agaaattccc 4500
atggaaagag tcatagcagc tgcaaaaacag gtcagctgc atgatTTTGT catgtcactc 4560

DEAV2004-0025.txt

ccagagaaaat atgaaaactaa	cgttgggtcc caggggtctc	aactctctag aggggagaaa	4620
caacgcattg ctattgctcg	ggccattgt a c g a g a t c c t a	aaatcttgc t actagatgaa	4680
gccacttctg ccttagacac	agaaagt gaa a a g a c g g t c	agg t g c t c t agacaaagcc	4740
agagagggtc ggacctgcat	tgtcattg c c a t c g c t t g t	ccaccatcca gaacgcggat	4800
atcattgctg tcatggcaca	gggggtggg t g a t g a a a a g g	ggacccatga agaactgatg	4860
gccccaaaag gagcctacta	caaactagtc accactggat	cccccatc a g t g t g g t g g	4920
gctttctt g t a c a a a g t g g t	gattggtacc gagctcgat	ccactag t c c a t c a g c	4980
aattctgc a g a t a t c c a g c a	c a g t g g c g g c	c g c t c g a g t c a g a	5040
gctgatc a g c t c g a c t g t g	c c t t c t a g g t	g c c a g c c a t c t g t t g	5100
tgccttcctt g a c c c t g g a a	g g t g c c a c t c	c c a c t g t c c t t c t a a	5160
ttgcatcgca ttgtctg a g g t g t c a t t	c t a t t c t g g g	g g g t g g g g t g g c a g g a c a	5220
gcaagggg g g a t t g g g a a	g a c a a t a g c a	g g c a t g c t g g g a t g c g g t g	5280
c t t c t g a g g c g a a a g a a a c c	a g c t g g g g c t	t c c c a c g c g c t g t a g c g	5340
g c g c a t t a a g	c g c g g c g g g t	g t g g t g g t t a c g c g t	5400
c c c t a g c g c c	c g c t c t t t c	g a c c g c t a c a c t g c g	5460
c c c g t c a a g c	g t t t c t t c	c t t g c c a g c g	5520
t c g a c c c c a a	a a a a c t t g a t	t a g g g t g a t g t	5580
c g g t t t t c g	t a g g g t g a c g	t g t g a g t c c a a a	5640
c t g g a a c a a c	a c t c a a c c t	t a t t c t g g t a t t a a g g g	5700
t t t c g g c c t a	a t c t c g g t c t	t t t a t a a g g g	5760
t t g g t t a a a a	a a t g a g c t g a	t t t a a c a a a a	5820
g t g g a a t g t g	t g t c a g t t a g	a t t a a c g c g	5880
t g c a a a g c a t	g g t g t g g a a a	a a t t a a t t c t	5940
c a g g c a g a a g	g t c c c a g g c	c c g c c c t a a	6000
c t c c g c c c a t	a c t c c g c c a	t t c t c c g c c a t g g c t g a c	6060
t a a t t t t t t	t a t t t a t g c a	g a g g c c g a g g	6120
c c a t t t t c g g	a c a g t g t t g a	c a a t t a a t c a	6180
a g t a t a a t a c	g a c a a g g t g a	t c g g c a t a g t	6240
g g a a c t a a a c	g g a a c t a a a c	a t a t c g g c a t	6300
g c t c a c c g c g	c a t g g c c a a g	t t g a c c a g t g	6360
c c g g g a c t t c	c c g g a g c g g t	c g a t t c t g g	6420
c t g t a c g c c g	a c t t c g c c g g	a c g a a c t t c c	6480
c g g g c c g g c c	a t g a c c g a g a	g g g a c g c c t c	6540
c c c g g c c g g c	t c g g c g a g c a	a a c t g c g t g c g a	6600

DEAV2004-0025.txt

tttcgattcc accgcccgcct tctatgaaag gttgggcttc ggaatcgittt tccgggacgc	6660
cggctggatg atcctccagc gcggggatct catgctggag ttcttcgccc accccaactt	6720
gtttattgca gcttataatg gttacaaata aagcaatagc atcacaaatt tcacaaataa	6780
agcattttt tcactgcatt ctagttgtgg tttgtccaaa ctcatcaatg tatcttatca	6840
tgtctgtata ccgtcgacct ctagctagag cttggcgtaa tcatggtcat agctgttcc	6900
tgtgtgaaat tgttatccgc tcacaattcc acacaacata cgagccggaa gcataaagtg	6960
taaagcctgg ggtgcctaattt gagttagtacta actcacatta attgcgttgc gctcaactgcc	7020
cgctttccag tcgggaaacc tgctgtgcca gctgcattaa tgaatcgcc aacgcgcggg	7080
gagaggcggt ttgcgttattt ggcgcttttc cgcttcctcg ctcactgact cgctgcgctc	7140
ggtcgttcgg ctgcggcgag cggtatcagc tcactcaaag gcggtaatac gtttatccac	7200
agaatcaggg gataacgcag gaaagaacat gtgagcaaaa ggccagcaaa aggccaggaa	7260
ccgtaaaaaag gccgcgttgc tggcgaaaaa ccataggctc cgccccctg acgagcatca	7320
caaaaatcga cgctcaagtc agaggtggcg aaacccgaca ggactataaa gataccaggc	7380
gtttccccctt ggaagctccc tcgtgcgctc tcctgttccg accctgcccgc ttaccggata	7440
cctgtccgccc tttctccctt cgggaagcgt ggcgccttct caatgctcac gctgttaggtt	7500
tctcagttcg gtgttaggtcg ttgcgtccaa gctggctgt gtgcacgaac ccccccgttca	7560
gcccgaccgc tgccgttat ccggtaacta tcgtcttgag tccaaacccgg taagacacga	7620
cttacgcgcca ctggcagcag ccactggtaa caggattagc agagcgaggt atgtaggcgg	7680
tgctacagag ttcttgaagt ggtggctaa ctacggctac actagaagga cagtatttgg	7740
tatctgcgct ctgctgaagc cagttacccctt ccggaaaaaga gttggtagt cttgatccgg	7800
caaacaacc accgctggta gcgggggttt ttttgggc aagcagcaga ttacgcgcag	7860
aaaaaaaaagga tctcaagaag atcctttgat cttttctacg gggctgacg ctcagtggaa	7920
cggaaactca cgttaaggga ttttggcat gagattatca aaaaggatct tcacccatagat	7980
cctttaaat taaaaatgaa gttttaaatc aatctaaagt atatatgagt aaacttggc	8040
tgacagttac caatgcttaa tcagtgggc acctatctca gcgatctgtc tatttcgttc	8100
atccatagtt gcctgactcc ccgtcggtta gataactacg atacgggagg gcttaccatc	8160
tggccccagt gctgcaatga taccgcgaga cccacgctca ccggctccag atttatcagc	8220
aataaaaccag ccagccggaa gggccgagcg cagaagtggt cctgcaactt tatccgcctc	8280
catccagtct attaattgtt gccgggaagc tagagtaagt agttcgccag ttaatagttt	8340
gcgcaacggtt gttgccattt ctacaggcat cgtgggtca cgctcgctgt ttggatggc	8400
ttcattcagc tccgggtccc aacgatcaag gcgaggatca tgatccccca tggatggc	8460
aaaaagcggtt agctccctcg gtcctccgat cgttgcaga agtaagttgg ccgcagtggtt	8520
atcactcatg gttatggcag cactgcataa ttctcttact gtcatgccc cat ccgtaaagatg	8580
cttttctgtg actggtagt actcaaccaa gtcattctga gaatagtgtt tgccggacc	8640

14/19

DEAV2004-0025.txt

gagttgcgtc tgcccgccgt caatacggga taataccgcg ccacatagca gaactttaaa 8700
agtgcgtatc attggaaaac gttcttcggg gcgaaaactc tcaaggatct taccgctgtt 8760
gagatccagt tcgatgtaac ccactcggtc acccaactga tcttcagcat cttttacttt 8820
caccagcggtt tctgggtgag caaaaacagg aaggcaaaaat gccgcaaaaa agggaaataag 8880
ggcgacacacgg aaatgttgaa tactcatact cttccttttt caatattattt gaagcatttt 8940
tcagggttat tgtctcatga gcggatacat atttgaatgt atttagaaaa ataaacaaat 9000
aggggttccg cgcacatttc cccgaaaagt gccacctgac gtc 9043

<210> 6
<211> 9658
<212> DNA
<213> Arti

<220>
<223> Plasmid

<400> 6
gacggatcgg gagatctccc gatccccat ggtcgactct cagtacaatc tgctctgatg 60
ccgcatagtt aagccagttat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg 120
cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatt aagaatctgc 180
tttagggtagt gcgttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt 240
gattatttgcg tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata 300
tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaaacgacc 360
cccgcccat gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420
attgacgtca atgggtggac tatttacggt aaactgccc cttggcagta catcaagtgt 480
atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540
atgcccagta catgaccta tgggactttc ctacttggca gtacatctac gtattagtca 600
tcgctattac catggtgatg cgggtttggc agtacatcaa tggcgtgga tagcggttt 660
actcacggg atttccaagt ctccacccca ttgacgtcaa tggagtttgc 720
aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatggcgc 780
gtaggcgtgt acgggtggag gtctatataa gcagagctct ctggctaaact agagaaccca 840
ctgcttactg gcttatcgaa attaatacga ctcaactatag ggagacccaa gctggctagc 900
agtccaggaa tcatgctgga gaagttctgc aactctactt tttggaaattc ctcattcctg 960
gacagtccgg aggcagacct gccactttgtt tttgagcaaa ctgttctggt gtggattttcc 1020
ttgggcttcc tatggctcct ggccccctgg cagttctcc acgtgtataa atccaggacc 1080
aagagatcct ctaccaccaa actctatctt gctaaggcagg tattcgttgg ttttcttctt 1140
attcttagcag ccatagagct ggcccttgta ctcacagaag actctggaca agccacagtc 1200
cctgctgttc gatataccaa tccaaggctc tacctaggca catggctcct gttttgctg 1260
atccaataaca gcagacaatg gtgtgtacag aaaaactcct gtttcgtc cttattctgg 1320

DEAV2004-0025.txt

attctctcga tactctgtgg cactttccaa	tttcagactc tgatccggac	actcttacag	1380							
ggtgacaatt ctaatctagc	ctactcctgc ctgttctca	tctcctacgg	attccagatc	1440						
ctgatccctga	tcttttcagc	attttcagaa	aataatgagt	catcaaataa	tccatcatcc	1500				
atagcttcat	tcctgagtag	cattacctac	agctggat	tg acagcatcat	tctgaaaggc	1560				
tacaagcg	tc	ctgacact	cgaggatgtc	tg	ggaagttg atgaagagat	gaaaaccaag	1620			
acattagtga	gcaagttga	aacgcacatg	aagagagagc	tg	cagaaaagc	caggcgggca	1680			
ctccagagac	ggcaggagaa	gagctcccag	cagaactctg	gagccaggt	gc	cctggcttg	1740			
aacaagaatc	agagtcaaag	ccaagatgcc	cttgcctgg	aagatgttga	aaagaaaaaa	1800				
aagaagtctg	ggacaaaaaa	agatgttcca	aaatccttgtt	tgatgaaggc	tctgttcaaa	1860				
actttctaca	tggtgctcct	gaaatcattc	ctactgaagc	tagtgaatga	catcttcacg	1920				
tttgtgagtc	ctcagctgct	gaaattgc	tg	atc	cttgc	ca	1980			
tttgtggattg	gatatctctg	tgcaatcc	ttat	tcactg	cggct	tc	2040			
tgcc	ttc	agt	gttcca	actgtgcttc	aagctgggtg	taaaagtacg	2100			
atggcttctg	tatataagaa	ggcattgacc	ctatccaa	tggccaggaa	ggagtacacc	2160				
gttggagaaa	cagtgaac	ct	gtgtctgt	gatgcccaga	agctcatgga	tgtgaccaac	2220			
ttc	atgc	aca	tgctgtggc	aagtgttcta	cagattgtct	tatctatctt	2280			
agagagttgg	gacc	ctc	agt	ccat	gttgggtg	tgg	ctt	aatccaa	2340	
aat	atgc	gata	tgt	ccac	aa	gat	aa	gac	2400	
aaac	at	ttt	aa	gat	ttt	ttt	ttt	ttt	ttt	2460
tgg	aa	cc	catt	caga	ccaa	aa	cc	cc	cc	2520
ctgg	cc	tt	gt	ca	act	ac	act	act	act	2580
gt	at	ct	gt	tg	gt	gt	gt	gt	gt	2640
ca	aa	gg	cc	ct	ac	at	tt	gg	at	2700
cc	cc	at	tc	cc	cc	at	at	gg	cc	2760
cc	cc	at	tc	cc	cc	at	at	gg	cc	2820
at	gc	ag	ttt	ttt	ttt	ttt	ttt	ttt	ttt	2880
gt	ga	ac	ct	tt	ac	ct	tt	ac	ct	2940
aa	at	cct	cct	cct	cct	cct	cct	cct	cct	3000
at	ca	ag	gg	cc	ta	cc	ca	cc	ca	3060
ga	ca	ac	at	cc	tt	cc	ca	cc	ca	3120
tgt	gct	ctcc	cc	cc	cc	cc	cc	cc	cc	3180
aa	gg	gt	at	tt	tt	tt	tt	tt	tt	3240
aaa	at	tt	at	tt	tt	tt	tt	tt	tt	3300
aa	ac	at	at	tt	tt	tt	tt	tt	tt	3360

DEAV2004-0025.txt
ttggttacac atagcatgca ctttcttcct caagtggatg agattgttagt tctggggat 3420
ggaacaattg tagagaaaagg atcctacagt gctctcctgg ccaaaaaagg agagtttgct 3480
aagaatctga agacatttct aagacatatac ggcctgaag aggaagccac agtccatgat 3540
ggcagtgaag aagaagacga tgactatggg ctgatatcca gtgtggaaga gatccccgaa 3600
gatgcagcct ccataaccat gagaagagag aacagtttc gtcgaacact tagccgcagt 3660
tctaggtcca atggcaggca tctgaagtcc ctgagaaact ccttgaaaac tcggaatgtg 3720
aatagcctga aggaagacga agaacttagt aaaggacaaa aactaattaa gaaggaattc 3780
atagaaaactg gaaaggtgaa gttctccatc tacctggagt acctacaagc aataggattg 3840
ttttcgatat tcttcatcat ctttgcgttt gtgatgaatt ctgtggcttt tattggatcc 3900
aacctctggc tcagtgcctg gaccagtgac tctaaaatct tcaatagcac cgactatcca 3960
gcatctcaga gggacatgag agttggagtc tacggagctc tgggatttagc ccaaggtata 4020
tttgcgttca tagcacattt ctggagtgcc tttggttcg tccatgcattc aaatatcttg 4080
cacaaggcaac tgctgaacaa tatccttcga gcacctatga gatTTTTGA cacaacaccc 4140
acaggccgga ttgtgaacag gtttgcggc gatatttcca cagtgatgac caccctgcct 4200
cagtccttgc gcagctggat tacatgcctc ctggggataa tcagcacccct tgcattgtatc 4260
tgcattggcca ctccgtctt caccatcatc gtcattcctc ttggcattat ttatgtatct 4320
gttcagatgt tttatgtgtc tacctccgc cagctgaggc gtctggactc tgcaccagg 4380
tccccaaatct actctcaattt cagcgagacc gtatcagggt tgccagttat ccgtgccttt 4440
gagcaccagc agcgatttct gaaacacaat gaggtgagga ttgacaccaa ccagaaatgt 4500
gtcttttcct ggatcacctc caacagggtgg cttgcaattc gcctggagct ggttgggaaac 4560
ctgactgtct tcttttcagc cttgatgatg gttatTTATA gagataccct aagtggggac 4620
actgttggct ttgttctgtc caatgcactc aatatcacac aaaccctgaa ctggctggtg 4680
aggatgacat cagaataga gaccaacattt gtggctgttg agcgaataac tgagtacaca 4740
aaagtggaaa atgaggcacc ctgggtgact gataagaggc ctccgcccaga ttggcccagc 4800
aaaggcaaga tccagtttaa caactaccaa gtgcggtacc gacctgagct ggatctggtc 4860
ctcagagggc tcacattgtga cattggtagc atggagaaga ttgggtgtggt gggcaggaca 4920
ggagctggaa agtcatccct cacaactgc ctcttcagaa tcttagaggc tgccgggtgg 4980
cagattatca ttgatggagt agatattgtc tccattgggc tccacgaccc ccgagagaag 5040
ctgaccatca tcccccagga ccccatcctg ttctctggaa gcctgaggat gaatctcgac 5100
cctttcaaca actactcaga tgaggagatt tggaaggcct tggagctggc tcacccatcaag 5160
tcttttgcgtgg ccagcctgca acttgggtta tcccacgaa tgacagaggc tgggtggcaac 5220
ctgagcatag gccagaggca gctgctgtgc ctggggcaggc ctctgcttcg gaaatccaaag 5280
atcctggtcc tggatggaggc cactgctgcgttgatctag agacagacaa cctcattcag 5340
acgaccatcc aaaacgaggat ccggccactgc acagtgtatca ccatcgccca caggctgcac 5400

DEAV2004-0025.txt

accatcatgg acagtgacaa ggtaatggc ctagacaacg ggaagattat agagtgcggc	5460
agccctgaag aactgctaca aatccctgga ccctttact ttatggctaa ggaagctggc	5520
attgagaatg tgaacagcac aaaattctag cttaagcttg gtaccgagct cggatccact	5580
agtccagtgt ggtggattc tgcagatatc cagcacagtg gcggccgctc gagtctagag	5640
ggcccgttta aaccgcgtga tcagcctcga ctgtgccttc tagttgccag ccattctgttg	5700
tttgccccc ccccggtcct tccttgaccc tggaagggtgc cactcccact gtccttcct	5760
aataaaaatga ggaaattgca tcgcattgtc tgagtaggtg tcattctatt ctggggggtg	5820
gggtggggca ggacagcaag ggggaggatt ggaaagacaa tagcaggcat gctggggatg	5880
cgggtggctc tatggcttct gaggcggaaa gaaccagctg gggctctagg gggatcccc	5940
acgcgcctg tagcggcgca ttaagcgcgg cgggtgtggt ggttacgcgc agcgtgaccg	6000
ctacacttgc cagcgcctta gcgcggctc ctttcgctt cttcccttcc tttctcgcca	6060
cgttcggcgg ctttccccgt caagctctaa atcggggcat ccctttaggg ttccgattta	6120
gtgcttacg gcacctcgac cccaaaaaac ttgatttaggg ttaggttca cgtagtggc	6180
catcgcctg atagacggtt ttgcgcctt tgacgttggc gtccacgttc tttaatagtg	6240
gactcttgc ttccaaactgga acaacactca accctatctc ggtctattct tttgatttat	6300
aagggatttt ggggatttcg gcctatttgt taaaaaatga gctgatttaa caaaaattta	6360
acgcgaatta attctgtgga atgtgtgtca gtttaggggt ggttacgtccc caggctcccc	6420
aggcaggcag aagtatgcaa agcatgcac tcaatttagtc agcaaccagg tgtggaaagt	6480
cccccaggctc cccagcaggc agaagtatgc aaagcatgca tctcaatttag tcagcaacca	6540
tagtcccgc cctaactccg cccatccgc ccctaactcc gcccagttcc gcccattctc	6600
cggcccatgg ctgactaatt ttttttattt atgcagaggc cgaggccgccc tctgcctctg	6660
agctattcca gaagtagtga ggaggcttt ttggaggcct aggctttgc aaaaagctcc	6720
cgggagcttgc tatatccatt ttccggatctg atcagcacgt gttgacaatt aatcatcgcc	6780
atagtatatic ggcatagtat aatacgacaa ggtgaggaac taaaccatgg ccaagttgac	6840
cagtgcgtt ccgggtgctca ccgcgcgcga cgtgcggga gcggtcgagt tctggaccga	6900
ccggctcggg ttctcccggtt acttcgtgga ggacgacttc gcccgggtgg tccggacga	6960
cgtgaccctg ttcatcagcg cgggtccagga ccaggtggc ccggacaaca ccctggctg	7020
gggtgtgggtg cgccggctgg acgagctgta cgccgagtgg tcggaggtcg tgtccacgaa	7080
cttccgggac gcctccgggc cggccatgac cgagatcgcc gaggccgt gggggcggga	7140
gttcgcctcg cgcgacccgg ccggcaactg cgtgcacttc gtggccgagg agcaggactg	7200
acacgtgcta cgagatttcg attccaccgc cgccctctat gaaaggttgg gcttcggaat	7260
cgttttccgg gacgcccggct ggatgatcct ccagcgcggg gatctcatgc tggagttctt	7320
cggccacccc aacttggta ttgcagctta taatggttac aaataaaagca atagcatcac	7380
aaatttcaca aataaaagcat tttttcact gcattctagt tgtggttgt ccaaactcat	7440

DEAV2004-0025.txt

caatgtatct tatcatgtct gtataccgtc gaccccttagc tagagcttgg cgtaatcatg	7500
gtcatagctg tttccctgtgt gaaattgtta tccgctcaca attccacacaca acatacgagc	7560
cggaaggcata aagtgtaaag cctgggggtgc ctaatgagtg agctaactca cattaattgc	7620
gttgcgcctca ctgcccgtt tccagtcggg aaacctgtcg tgccagctgc attaatgaat	7680
cggccaacgc gcggggagag gcgggttgcg tattgggcgc tcttccgcctt cctcgctcac	7740
tgactcgcctg cgctcggtcg ttccggctgcg gcgagcggta tcagctcaact caaaggcggt	7800
aatacggtta tccacagaat caggggataa cgccaggaaag aacatgtgag caaaaggcca	7860
gcaaaaaggcc aggaaccgt aaaaaggccgc gttgctggcg tttttccata ggctccgccc	7920
ccctgacgag catcacaaaa atcgacgctc aagtcaagagg tggcggaaacc cgacaggact	7980
ataaaagatac caggcgtttc cccctggaag ctccctcggt cgctctccctg ttccgaccct	8040
gccgcttacc ggataacctgt ccgccttct cccttcggga agcgtggcgc tttctcaatg	8100
ctcacgcgtg aggtatctca gttcgggtgtt ggtcgctcg tccaaagctgg gctgtgtgca	8160
cgaacccccc gttcagcccg accgctgcgc cttatccggta aactatcgctc ttgagtc当地	8220
cccggttaaga cacgacttat cgccactggc agcagccact ggtaacagga ttagcagagc	8280
gaggtatgta ggcgggtgcta cagagttctt gaagtgggtgg cctaaactacg gctacactag	8340
aaggacagta tttggtatct gcgctctgct gaagccagtt accttcggaa aaagagttgg	8400
tagctcttga tccggcaaacc aaaccaccgc tggtagcggt ggtttttttt tttgc当地	8460
gcagattacg cgcagaaaaa aaggatctca agaagatcct ttgatctttt ctacggggc	8520
tgacgcgtcag tggAACGAAA actcacgttta agggatTTT gtc当地gagat tatcaaaaaag	8580
gatcttcacc tagatccttt taaattaaaa atgaagtttt aaatcaatct aaagtatata	8640
tgagtaaact tggctctgaca gttaccaatg cttaaatcagt gaggcaccta tctcagcgat	8700
ctgtctattt cgttcatcca tagttgcctg actcccccgtc gtgttagataa ctacgatacg	8760
ggagggctta ccatctggcc ccagtgcgtc aatgataccg cgagacccac gctcaccggc	8820
tccagattta tcagcaataa accagccagc cggaaggggcc gagcgc当地gagaa gtggccctgc	8880
aactttatcc gcctccatcc agtctattaa ttgttgc当地gg gaagcttagag taagtagttc	8940
gccagttaat agtttgc当地ca acgttgc当地tgc cattgctaca ggc当地atcggttgg tgtcacgc当地tgc	9000
gtcggttggat atggcttcat tc当地agctccgg ttcccaacga tcaaggc当地gag ttacatgatc	9060
ccccatgttg tgcaaaaaag cggttagctc cttccggctt cc当地atcggttgc tc当地agaagtaa	9120
gttggccgca gtgttatcactc tcatggttat ggccaggactg cataattctc ttactgtcat	9180
gccatccgta agatgctttt ctgtgactgg tgagttactca accaagtc当地t catc当地gagata	9240
gtgtatgc当地gg cgaccgagtt gctcttgc当地cc ggc当地gtcaata cgggataata cc当地gc当地caca	9300
tagcagaact tt当地aaatgtgc tc当地atcattgg aaaacgttct tc当地ggggc当地aa aactctcaag	9360
gatcttaccg ctgttgc当地gttccat gtaaccact cgtgc当地ccca actgatcttcc	9420
agcatctttt actttcacca gc当地gttctgg gtgagcaaaaa acagggagggc aaaatgc当地ccgc	9480

19/19

DEAV2004-0025.txt

aaaaaaaggga ataagggcga cacggaaatg ttgaatactc atactcttcc ttttcaata	9540
ttattgaagc atttatcagg gttattgtct catgagcgg a tacatattt aatgtattt a	9600
gaaaaataaa caaatagggg ttccgcgcac attccccga aaagtgccac ctgacgta	9658